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ABSTRACT

This performance report summarizes the services and activities provided for youth and adults in secondary and postsecondary vocational education in North Carolina from July 1987-June 1988, as mandated by the Carl D. Perkins Vocational Education Act of 1984. Data are provided to reflect services to special populations, trends, growth in enrollment, student and employer assessment of the value of vocational education, and business-industry participation and contribution to quality control. The first part of the report contains information on secondary education in the following four sections: (1) services and activities for the handicapped, disadvantaged, limited English proficient, and nontraditional students (sex equity); (2) new programs, expanded programs, career guidance, personnel development, curriculum development, equipment, research, and other improvement activities; (3) home economics services and activities; and (4) programs and services provided jointly by eligible recipients and community-based organizations. The second part of the report contains information on postsecondary education in two sections: (1) handicapped, disadvantaged, limited English proficient, adults in need of training and retraining, single parents and homemakers, nontraditional students (sex equity), and criminal offenders in correctional institutions; and (2) accomplishments under a category where limited resources were available for the purpose. (KC)

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"It is the intent of the General Assembly that vocational education be an integral part of the educational process." The State Board of Education and the State Board of Community Colleges shall administer, through local boards, a comprehensive program of vocational education which shall be available to all students who desire it without regard to race, sex, national origin, or handicap.

A. Craig Phillips
State Superintendent
Department of Public Instruction

Vocational education is intended by the General Assembly of North Carolina to "be an integral part of the educational process." This is significant to understanding the performance of vocational education in this state. Just as we espouse a comprehensive approach to vocational education through a standardized course of study within secondary education, so do we promote a comprehensive approach to secondary vocational education that complements the work of postsecondary vocational and technical education.

To these ends, the North Carolina Vocational Education Performance Report is presented to demonstrate not only how the performance of vocational education meets the standards set forth in the federal Carl D. Perkins Act, but also to show it complements and contributes to the whole educational process for the youth of our state. We encourage you to read the document carefully.

Robert W. Scott
State President
Department of Community Colleges

The North Carolina community college system was created to give adult citizens opportunities to obtain the technical, vocational and basic academic education they need to be full participants in the economic and social life of the state. From its beginnings as a system of industrial education centers and junior colleges, it has focused on that primary mission. Today, over 624,000 individuals are enrolled in all programs, 413,000 in curriculum or continuing education programs which provide specific preparation for an occupation. Institutions provide assessment, counseling and support services to increase student success. College faculty and administrators work closely with business leaders to insure that programs are teaching students what they need to know to become valuable employees. The system's record in vocational education has made it one of the state's major economic development assets.

CERTIFICATION

The State Board of Education, sole state agency, has the authority under Public School Law 115C - 153, to approve and submit the PY 1987-88 Performance Report for Vocational Education. This report has been prepared in compliance with OMB Circular No. 1830-0503 and is authorized by 34 CFR 74.82. The report covers the twelve month program year July 1 to June 30.

NORTH CAROLINA STATE BOARD OF EDUCATION
(Official Name of State Board)

11 / 3 / 88
(Date)

Chairman, N.C. State Board of Education

11 / 3 / 88
(Date)

State Superintendent of Public Instruction

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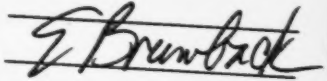

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INTRODUCTION

This Performance Report presents the services and activities provided the youth and adults in secondary and postsecondary vocational education in North Carolina from July 1, 1987 to June 30, 1988.

The report is more than a compliance document for the U.S. Department of Education. It represents the efforts at all levels to improve the quality of education and training for participants in vocational education.

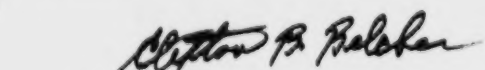
Data are provided to reflect services to special populations, trends, growth in enrollment, student and employer assessment of the value of vocational education, and business/industry participation and contribution to quality control.

The federal grant of $25 million dollars (PY 1987-88) was shared two-thirds for secondary and one-third for postsecondary. This sharing of federal resources is pursuant to North Carolina General Statute 115C-158. The contents of the report reflect this two-thirds/one-third split and the appropriate clientele served at each level of vocational education.

The report is divided into two parts--secondary and postsecondary. The secondary education part contains four sections (I, II, III, IV). The first section (I. Vocational Education Opportunities Accomplishments) contains information on secondary vocational education services and activities for handicapped, disadvantaged, limited English proficiency and sex equity. The second section (II. Program Improvement Accomplishments) contains information on secondary vocational education in the area of new programs, expanded programs, career guidance, personnel development, curriculum development, equipment, research, and other improvement activities. The third section (III. Consumer and Homemaking Accomplishments) contains information on home economics services and activities in secondary education. The fourth section (IV. Community Based Organizations) contains information on programs and services provided jointly by eligible recipients and community based organizations.

The postsecondary education part contains two sections (I, II). The first section (I. Vocational Education Opportunities Accomplishments) contains information on handicapped, disadvantaged, limited English proficiency, adults in need of training and retraining, single parents and homemakers, sex equity, and criminal offenders in correctional institutions. The second section (II. Program Improvement Accomplishments) contains information on postsecondary education accomplishments under a category where limited resources were available for the stated purpose.

We congratulate all parties concerned not only in the high level of performance indicated in this report, but also in the sincere desire to coordinate efforts to provide maximum results for the clients served by vocational education.



Clifton B. Belcher
Division of Vocational Education

Table 1

ENROLLMENT BY CATEGORY
PY 1987-88
SECONDARY - POSTSECONDARY

Target Population	Secondary		Postsecondary/Adult		Total
Title II(A)	Mainstream Programs	Separate Programs	Mainstream Programs	Separate Programs	
Handicapped	10,056	2,372	3,387	2,773	18,588
Disadvantaged (minus LEP)	27,844	2,431	33,350	11,006	74,631
LEP	147	48	940	2,665	3,800
Adult			65,281		65,281
Single Parent/ Homemaker			22,426		22,426
Corrections				2,273	2,273
Nontraditional*					
Male	38,548		17	77	38,642
Female	11,284		319	1,456	13,059
Title II(B) Regular Voc-Ed Population	420,630		413,214		833,844
TOTAL TITLE II	508,509	4,851	538,934	20,250	1,072,544
Title III					
III(A) C&H	59,782				59,782
Title IV					
IV(A) CBO	1,196				1,196
TOTAL - TITLE II, III & IV	569,487	4,851			574,338
TOTAL - SECONDARY & POSTSECONDARY	574,338		559,184		1,133,522

*A nontraditional vocational education program or course for a student is one in which the vast majority of students are of the opposite sex.

NORTH CAROLINA
ANNUAL PERFORMANCE REPORT
FOR THE VOCATIONAL EDUCATION STATE-ADMINISTERED PROGRAM
UNDER THE CARL D. PERKINS VOCATIONAL EDUCATION ACT
P.L. 98-524

This report is authorized by 34 CFR 74.82 and covers the twelve month program year July 1 to June 30. It has been prepared in compliance with OMB Circular No. 1830-0503, and Program Memorandum OVAE/DVE - FY88 - 9.

Program Year 1987-88

STATE BOARD OF EDUCATION
RALEIGH, NORTH CAROLINA
27603-1712

Results and Accomplishments of Expending Title II - Part A Federal Funds VOCATIONAL EDUCATION OPPORTUNITIES

The numerical data on special population students enrolled in vocational education that are assisted with federal funds under Title II, Part A and matching state/local funds where required or optionally provided are reflected in Table 1.

I. Vocational Education Opportunities Accomplishments

A. Handicapped - Secondary

1. Number of handicapped receiving additional services in maintstream programs. (See Table 1)

2. Number of handicapped served in separate programs. (See Table 1)

Table 2

THREE YEARS

ENROLLMENT BY CATEGORY
PY1985-86 PY1986-87 PY1987-88
SECONDARY - POSTSECONDARY

Target Population	Secondary		Postsecondary/Adult		Total
Title II(A)	Mainstream Programs	Separate Programs	Mainstream Programs	Separate Programs	
Handicapped	27,667	6,885	9,840	10,424	54,816
Disadvantaged (minus LEP)	77,269	7,032	89,271	25,946	199,518
LEP	450	103	4,567	6,462	11,582
Adult			216,398		216,398
Single Parent/ Homemaker			65,457		65,457
Corrections				6,691	6,691
Nontraditional* Male	111,390		62	246	111,698
Female	30,569		1,024	4,696	36,289
Title II(B) Regular Voc-Ed Population	1,168,026		1,223,251		2,391,277
TOTAL TITLE II	1,415,371	14,020	1,609,870	54,465	3,093,726
Title III III(A) C&H	138,996				138,996
Title IV IV(A) CBO	1,196				1,196
TOTAL - TITLE II, III & IV	1,555,563	14,020	1,609,870	54,465	3,233,918
TOTAL - SECONDARY & POSTSECONDARY	1,569,583		1,664,335		3,233,918

*A nontraditional vocational education program or course for a student is one in which the vast majority of students are of the opposite sex.

3. Achievements in providing equal access for handicapped; in recruitment; full range of programs; least restrictive environment; coordination between special education and vocational education; assessment, career development; and transition from school to work.

Throughout the 1987-88 school year local school units continued to initiate an aggressive program of supplemental services for handicapped students. The number of students electing to enroll in vocational programs increased as did the number of professional and paraprofessional staff employed to provide services. Local units worked to strengthen the quality of services provided in the following areas:

a. Equal Access and Recruitment

All local school administrative units provided assurances in their annual application for funds that handicapped students would be recruited for and enrolled in the full range of vocational education program offerings. This goal was accomplished through orientation activities for parents and students during individual or small group counseling sessions, career day exploration classes by vocational teachers and students, written communication, and home visitations.

The overall enrollment of handicapped students in vocational programs (with and without support) for 1987-88 was 22,295.

b. Least Restrictive Environment

Each LSAU assigned at least one individual to work as Vocational Support Service Coordinator. It was the responsibility of this individual to work with the placement committee to ensure that students were placed in the most appropriate and least restrictive environment. All vocational placements and supplemental services were planned and coordinated with special education teachers.

c. Assessment and Career Planning and Development

Handicapped students being considered for vocational placement and those already enrolled in vocational programs were given a vocational assessment to determine their strengths, weaknesses, and special needs.

Each local unit developed an assessment process that included two phases - basic assessment and formal assessment. All students were given a basic assessment. The primary purposes were to:

(1) assess academic abilities, vocational programs, interest, and learning needs and styles;

(2) develop an individual career and vocational plan; and

(3) determine whether a comprehensive or formal vocational assessment was needed.

If educational placement and instructional needs could not be determined at the basic assessment level, students were referred for more indepth assessment either at the high school or vocational rehabilitation units.

After completion of the assessment process a career plan was developed cooperatively with all services provided including special education teachers, vocational teachers, vocational handicapped support personnel, and vocational rehabilitation if applicable.

d. Transitional Services and Job Placement

The state level Transition Task Force continued its work to implement a statewide transition model. Model transition projects were initiated through the Division of Programs for Exceptional Children. The Division of Vocational Education worked cooperatively to ensure that services provided through these projects were not duplicative.

Workshops were held to plan strategies for implementing an intra-agency approach to providing transitional services.

Most LSAU's included work experience as a component of their service continuum. By utilizing JTPA resources, Vocational Rehabilitation services and Work Study, more handicapped students were afforded work experience prior to graduating from high school.

4. Description of additional or supplemental services to the handicapped.

Brunswick County - Estimated Expenditures (all fund sources) - $38,409.

DESCRIPTION OF SERVICES:

Brunswick County established and implemented a transitional service model which involved coordinating services provided by vocational education, JTPA, Vocational Rehabilitation and special education. The system developed a video program and brochure describing how the model works and the benefits to the students. A component of this model included a strong vocational support system that provided vocational assessment, career guidance, additional instruction, and work experience.

This model solved problems related to duplication of service and ensuring that handicapped studens receive adequate transitional services before leaving high school.

IMPACT OF USE OF THESE FUNDS ON THE TARGET POPULATION:

Services have been improved and expanded by the implementation of a model that eliminated program/service duplication. The model ensured that all handicapped students received transitional service.

Scotland County - Estimated Expenditures (all fund sources) - $29,247

DESCRIPTION OF SERVICES:

A special program and support system was provided for students in Scotland County in Occupational Home Economics.

Students were assessed to determine their interests and unique needs. Those students who could function in the mainstream with support were scheduled in selected Occupational Home Economics programs and provided support as needed by a team of support personnel.

Once it was determined that handicapped students could not develop competencies in the regular setting, they were assigned to a Special Applied Home Economics course. In this course, students were exposed to the same curriculum as the regular program with modifications in instructional strategies. When the student was ready, he/she moved from the Applied Home Economics sequence into Food Services, Child Care, Clothing Services, or Home Interior. Students learned realistic aspects of jobs available locally.

Handicapped students progressed through the program with the help of a support team and were able to develop entry level skills for occupations in these areas.

IMPACT OF USE OF THESE FUNDS ON THE TARGET POPULATIONS:

This program has been successful in helping handicapped students develop marketable skills and secure permanent employment in the private competitive job market.

Carteret County - Estimated Expenditures (all fund sources) - $56,503

DESCRIPTION OF SERVICES:

Carteret County provided support services for special needs students enrolled in the Career Exploration Program by scheduling identified students with extremely low academic abilities into an additional period of Career Exploration. During this additional period, students were provided help on tasks which were covered during the regular class period, or given additional time to complete exploratory activities. This concept allowed students to progress at the same rate as their peers in completing career exploration competencies.

IMPACT OF USE OF THESE FUNDS ON THE TARGET POPULATION:

By providing additional class time for exploratory activities students received counseling and career development that enabled them to make realistic career decisions.

5. Exemplary programs developed.

J. T. Hoggard High School offers a special vocational curriculum for EMH and LP students. In addition to all regular vocational classes in which they may choose to enroll, many students take the three-year program which is specifically designed for their needs.

Sophomores are introduced to Vocational Education through the course Everyday Living Skills. This course offers study in general household management, cooking and sewing skills, home maintenance and computer education.

The juniors continue vocational study in Vocational Education I which is classroom and work experience integrated into one program. Three days a week the student studies skills that are necessary for employment. Areas that are covered include applications, interview techniques, job hiring, employer-employee relationships, computer training and job safety. Two days a week the students spend their class time working at job sites around the school. These sites include the library, the cafeteria, the nurse's office, the attendance office, custodial work, the bookroom and grounds maintenance. Students may also work as teacher assistants during this time helping teachers with room maintenance and paper grading.

Seniors in Vocational Education II devote three class periods a day to their study. Two periods are spent working in businesses at Long Leaf Mall which include Roses, Hardee's, Ben Franklin Craft Store, The Paper Place, That's Amore and Coastal Dry Cleaners. These businesses offer valuable training for students that cannot be taught in a regular vocational classroom. Activities include yard maintenance, salad and dessert preparation, stocking shelves, unloading trucks, pricing merchandise, fixing displays, window washing and general store upkeep. Students rotate through four nine-week sessions; therefore gaining a variety of business experience. Students who become competent workers are easily gaining employment upon graduation due to references and contacts made while working. The third period is spent in the classroom discussing job related problems and accomplishments and vocational training.

The goal of this program is "to provide meaningful work experiences enabling students to acquire knowledge, skills and appropriate attitudes necessary for eventual full-time employment. Through the efforts of the administration, the faculty and the concerned businesses at Long Leaf Mall, EHM students at J. T. Hoggard are achieving this goal and preparing themselves for a lifetime of employment.

B. Disadvantaged - (Excluding LEP) Secondary

1. Number of disadvantaged individuals receiving additional services in mainstream programs. (See Table 1)

2. Number of disadvantaged individuals served in separate programs. (See Table 1)

3. Description of additional or supplemental services provided to the disadvantaged.

The local school administrative units continued their efforts to provide quality vocational training for disadvantaged students. The major emphasis was to ensure that all students were provided equal access to vocational programs and an equal opportunity to develop marketable skills. Local unit's service delivery included outreach activities, vocational assessment, supplemental services, career guidance and counseling, and job placement and follow-up. The following is a description of these activities:

a. Outreach

"At risk" students were identified at the seventh and eighth grade level. Individual and/or group counseling sessions were provided to inform students of vocational program offerings and the continuum of services available to them. During the spring of 1987, parents were informed of vocational options available to students. A vocational support service coordinator worked to ensure that all students identified received career counseling designed to plan appropriate vocational placement.

b. Assessment

Students enrolled in vocational programs were given an assessment to determine their interests, abilities, and special needs. This assessment analyzed students' abilities and needs in relationship to available vocational training at the secondary level and the labor market demands of the community.

Upon completion of the assessment process the vocational support coordinator and vocational teacher cooperatively develop a Career Development Plan for each student. This plan outlined the student's strengths and weaknesses, supplemental services needed, and method by which needed services would be provided.

c. Supplemental Services

Local educational agencies provided a broad range of supplemental services designed to help students achieve success in regular vocational programs. Support Service Centers in each LSAU enhanced the quality of services provided in existing centers.

Students were referred to the SSC by the vocational teacher to receive one-on-one remedial or small group instruction as needed, counseling, or for additional time on vocational tasks. The Support Service Center served as a bank of instructional materials and supplemental strategies from which disadvantaged students and their vocational teachers could draw assistance for skill training.

Instruction provided through the Center varied according to student needs and learning styles. However, a major emphasis was placed on basic skills remediation, and counseling. The Center personnel also assisted in planning instruction, modifying curriculum, and made recommendations for facilities and equipment when appropriate.

4. Achievements in serving the disadvantaged students in terms of improved access and services provided that contribute to success in the program.

Craven County - Estimated Expenditures (all fund sources) - $42,440

DESCRIPTION OF SERVICES:

Craven County established a mobile vocational assessment unit. This was accomplished by remodeling a school bus complete with individual study carrels, electrical outlets, storage cabinets, and central heating and air conditioning.

The unit is adequately equipped with a variety of instruments that will assess students' learning styles, aptitudes, interests, and job readiness skills.

IMPACT OF USE OF THESE FUNDS ON THE TARGET POPULATION:

As a result of these funds, more disadvantaged students are receiving services. Problems related to space, permanent facility for assessment, and transferring heavy equipment were solved.

New Hanover County - Estimated Expenditures (all fund sources) - $66,869

DESCRIPTION OF SERVICES:

New Hanover High School established a resource center that served a dual purpose. In addition to serving students, the Center also provided resource help for vocational teachers.

Teachers who had problems working with special needs students in their classes came to the resource center to check out materials directly related to their vocational content, received assistance in modifying curriculum and instruction, analyze reading levels of textbooks and test, reviewed information pertaining to individual students, and to improve their skills in working with special needs students.

IMPACT OF USE OF THESE FUNDS ON THE TARGET POPULATION:

Federal funds, in combination with state and local funds, have enabled New Hanover County to build a vocational resource center, adequately equipped and staffed to meet students' needs as well as the needs of vocational teachers. The Vocational teachers are better prepared to work with disadvantaged students in the mainstream environment.

Kinston City - Estimated Expenditures (all fund sources) - $22,,927

DESCRIPTION OF SERVICES

Kinston City established a vocational service delivery model designed to meet the total vocational needs of students. This model involved the cooperative efforts of vocational education, special education, vocational rehabilitation, and JTPA personnel.

The program identified student needs through assessment. From this point comprehensive service deliver strategies were initiated: vocational teachers modified their competencies and instructional strategies to meet identified needs; remedial help was provided by vocational support personnel and special education teachers; students received employability skills training through the regular program or through Project "Help"; and work experience or cooperative vocational educational experiences through the regular Marketing Program or the Special Cooperative Program.

This model solved problems related to duplication of service, and ensuring that special needs students received the full range of service available within the school.

IMPACT OF USE OF THESE FUNDS ON THE TARGET POPULATION:

More students have been served and regular vocational teachers are actively involved in the delivery of supplemental services for disadvantaged students.

5. Exemplary programs developed.

Cumberland County's Southview High School has an exceptional Support Service Center for disadvantaged and handicapped students. The Center is staffed with a certified teacher and an instructional aide. Through the Center, students receive vocational assessment, counseling, career information, vocationally related basic skills, or technical skills remediation as needed.

The Center is equipped with learning stations for various vocational areas which include a wide selection of software to facilitate computer assisted remediation in vocational content.

In addition, the Center has established an "Adopt-A-Student" component. In this component, regular vocational teachers adopt a special needs student (or students) they will tutor, counsel, provide supplemental services, or be available so the student will have someone to talk to during crisis. This component provided an opportunity for vocational teachers to become actively involved in providing support services and understanding the unique needs of special students.

Limited English Proficiency (LEP) - Secondary Level

1. Number of LEP individuals receiving additional services in mainstream programs. (See Table 1)

2. Number of LEP individuals served in separate programs. (See Table 1)

3. Description of additional or supplemental services provided to the LEP.

   Limited English-proficient students that needed assistance in vocational programs were identified. Support personnel (teachers or paraprofessionals) were employed as needed to provide assessment, counseling, and tutorial services in their native language. In addition, funds were used to purchase supplemental materials and supplies designed to help students achieve success in vocational programs.

4. Achievements in serving the LEP students in terms of improved access and services provided that contribute to success in the program.

   The emphases on mainstreaming resulted in more students participating in vocational programs. The enrollment increased from 72,630 during 1986-87 to 83,930 during 1987-88. The number of professional and paraprofessional employed to provide additional services increased from 321 to 435.

   In an effort to provide a full range of services, local units worked cooperatively with JTPA programs and state funded dropout prevention programs to make available a broad range of services for disadvantaged students.

5. Exemplary programs developed (Estimated Expenditures - all fund source) $9,146

   Wake County School system employed an instructional aide to provide support services for LEP students who were enrolled in vocational programs and experienced difficulties understanding the English language. The aide assisted students in translation of vocational instruction, provided counseling activities and informed LEP students and their parents about vocational education offerings.

E. Students in Non-Traditional Programs (Sex Equity) - Secondary

1. Number of students in non-traditional programs. (See Table 1)

2. Achievements and services provided to reduce sex bias and sex stereotyping in vocational programs.

Local Educational Agencies were given an opportunity to apply for special grants to develop programs aimed at reducing sex bias, sex stereotyping, and increasing the enrollment of boys and girls in non-traditional vocational programs. Forty-four (44) special equity projects were funded and implemented.

The scope and design of each project varied according to each LSAU's needs in one or more of the following areas:

1. Inservice activities
2. Guidance materials
3. Outreach materials
4. Non-traditional Career Day
5. Summer Technology Exploratory Program
6. Model Teen Parent Programs

In addition to the special projects, the sex equity coordinator conducted a very successful workshop designed to increase the awareness level of vocational personnel of target equity issues and to assist LEAs in developing local equity programs to eliminate barriers to sex fair vocational education.

3. Cooperative efforts with private sector

Local Educational Agencies collaborated with businesses, industries, and local organizations to develop awareness/outreach workshops, nontraditional career day activities, non-traditional cooperative experiences, and a network of individuals working in non-traditional fields.

4. Exemplary programs developed.

The most successful of the sex equity projects were the Summer Technology Exploratory programs. These programs were designed to introduce males and females to non-traditional careers emphasizing technology advances. Students were provided hands-on exploratory experiences in a variety of technical fields. The participants visited high tech industries to talk with nontraditional employees and observe different tasks they were required to perform. In addition, guest speakers employed in nontraditional occupations were invited to the classroom to talk with students about careers in the technology area. Each program included a strong counseling component which utilized sex fair guidance materials, equity resources, and research.

II. Program Improvement Accomplishments - Secondary

Results and Accomplishments of Expending
Title II - Part B Federal Funds
VOCATIONAL EDUCATION PROGRAM IMPROVEMENT,
INNOVATION, AND EXPANSION

The following information reflects the state's programs, services, and activities designed to provide participants education/training with federal funds under Title II, Part B and matching state/local funds where required or optionally provided.

A. New Courses (See Table 3)
B. Expanded Courses (See Table 3)
C. Programs Dropped (See Table 3)

Courses By Category*

Table 3

		1** +	2** =	3** +	4** =	5**
Program Area		New Courses	Expanded Courses	Improved Courses	Discontinued Courses	Total
AGRIC.		36 (3%)	0 (0%)	36 (3%)	90 (8%)	126 (6%)
B.O.E.		150 (14%)	0 (0%)	150 (14%)	187 (16%)	337 (15%)
H.O.		0 (0%)	0 (0%)	0 (0%)	17 (1%)	17 (1%)
H. EC.	cons	276 (25%)	0 (0%)	276 (25%)	329 (29%)	605 (27%)
	occ	26 (2%)	1 (14%)	27 (2%)	40 (4%)	67 (3%)
I. A.		98 (9%)	0 (0%)	98 (9%)	30 (3%)	128 (6%)
M. E.		82 (8%)	3 (43%)	85 (8%)	26 (2%)	111 (5%)
T & I		137 (13%)	3 (43%)	140 (13%)	288 (25%)	428 (19%)
PRE-VOC		279 (26%)	0 (0%)	279 (26%)	135 (12%)	414 (18%)
TOTAL		1084 (49%)	7 (0%)	1091 (49%)	1142 (51%)	2233 (100%)

*This information is taken from the North Carolina Public School Statistical Profile: Comparison of 1986-87 with 1987-88.

**Columns 1 and 2 were added to get column 3. Columns 3 and 4 were added to get column 5.

NEW-means new to the LEA or a school within an LEA
EXPANDED-means added a level in a sequence or added a cooperative education component.

THREE YEARS

II. Program Improvement Accomplishments - Secondary

1985-86 1986-87 1987-88
Results and Accomplishments of Expending
Title II - Part B Federal Funds
VOCATIONAL EDUCATION PROGRAM IMPROVEMENT,
INNOVATION, AND EXPANSION

The following three years aggregated information reflects the state's programs, services, and activities designed to provide participants education/training with federal funds under Title II, Part B and matching state/local funds where required or optionally provided.

A. New Courses (See Table 4)
B. Expanded Courses (See Table 4)
C. Programs Dropped (See Table 4)

Courses By Category*

Table 4

		1** +	2** =	3** +	4** =	5**
Program Area		New Courses	Expanded Courses	Improved Courses	Discontinued Courses	Total
AGRIC.		162 (8%)	68 (22%)	230 (9%)	286 (9%)	516 (9%)
B.O.E.		473 (20%)	71 (23%)	544 (21%)	431 (14%)	975 (17%)
H.O.		26 (1%)	28 (9%)	54 (2%)	37 (1%)	91 (1%)
H. EC.	cons	424 (18%)	0 (0%)	424 (16%)	547 (17%)	971 (17%)
	occ	118 (5%)	39 (12%)	157 (6%)	68 (2%)	225 (4%)
I. A.		257 (11%)	58 (18%)	315 (11%)	120 (4%)	435 (7%)
M. E.		159 (7%)	19 (6%)	178 (7%)	108 (3%)	286 (5%)
T & I		289 (12%)	33 (10%)	322 (12%)	927 (29%)	1249 (21%)
PRE-VOC		424 (18%)	0 (0%)	425 (16%)	672 (21%)	1097 (19%)
TOTAL		2332 (40%)	316 (5%)	2648 (45%)	3196 (55%)	5844 (100%)

*This information is taken from the North Carolina Public School Statistical Profile: Comparison of preceding year to 1985-86 through 1987-88, and aggregated to reflect the 3 years change/improvement.

**Columns 1 and 2 were added to get column 3. Columns 3 and 4 were added to get column 5.

NEW-means new to the LEA or a school within an LEA
EXPANDED-means added a level in a sequence or added a cooperative education component.

A. New Courses - Secondary (see Tables 3 & 4)

The new courses identified in Table 3 are new to the local school administrative unit (LSAU) or a school within an LSAU. This numerical data is indicative of trends in vocational education germane to business and industrial economic and labor force requirements.

B. Expanded Courses - Secondary (see Tables 3 & 4)

1. Program Improvement Reflected in Part II, Local Plans and Program Area Data

Local school systems developed a three-year Part II, FY 1986, FY 1987, FY 1988, in the local plan which was consistent with the timing as specified in the Carl D. Perkins Vocational Education Act of 1984. For FY 1987, the local school systems submitted a program report on Part II of the local plan and updated FY 1988 Part II, Improvement Plans where necessary.

The local school systems for FY 1988 were not required to re-submit Part II of the local plan unless there were substantial changes in the Program Improvement Plan. For the 20% of the school systems in the 1987-88 Program and Administrative Review Process, the comprehensive report became the Revised Part II of the local plan.

Revisions and updates of Part II of the local plan indicated that improvements were made in the following areas: additional equipment/materials/supplies; increased personnel development activities; updating curriculum; redirecting of programs to areas with labor market growth; and making progress toward all programs being responsive to technological advances, changing characteristics of the work force, and the academic, technical, and attitudinal development of students.

2. Local Advisory Composition and Contribution to Improving Programs

To receive state and federal funds for vocational education programs and services, the local superintendent of public schools and the chairperson of the local board of education must sign a number of statements of assurances contained in the annual application. Among these assurances is one which states: "The annual plan was developed with the advice of a local advisory council. This plan is consistent with criteria set forth by legislation and/or State Board policy."

Based on a 20% random sample of secondary vocational education plans for state/federal funding submitted for FY 86 - FY 88, following is the composition of local advisory councils by clientele groups represented. There were 140 local systems with 139 reporting 3,886 members on vocational education advisory councils.

Clientele groups represented:

Agricultural	5.87%
Business	16.64
ESC, JTPA, other employment	21.47
Health	3.83
Home Economics	5.21
Industry	11.12
Labor	6.74
Marketing	5.19
Office	5.62
Technical	5.22
Trade	4.36
Other (parents, students, educators)	8.73
	100.00%

Composition by race and sex:

White males	47.67%
White females	23.18
Black males	15.71
Black females	12.03
American Indian males	.62
American Indian females	.16
Other males	.13
Other females	.09
	100.00%

Reports submitted by local school systems indicated that local vocational advisory council members participated in activities which included: attending orientation meetings, conducting occupational/community surveys to determine employment needs, advising on course contents, reviewing evaluation data, recommending appropriate equipment, and program visitations to schools. Representatives of the PICs as specified in the Job Training Partnership Act were more involved in the review of and commenting on local vocational education annual applications.

3. Vocational Education Standards and Their Relationship to Improving Programs

The 1985 General Assembly of North Carolina recognized the importance of quality vocational programs in the state by enacting six standards for the approval of vocational education programs as reflected in annual applications for state/federal aid beginning with plans and applications for the 1986-87 school year. These standards are beginning to impact all courses, services, activities meeting the legislated purposes of secondary vocational education; courses meeting identified minimum/maximum enrollments, the need for job skills programs being documented as needed based upon labor market data/follow-up data; equipment and facilities meeting minimum identified standards; all instructional and support personnel meeting minimum

certification requirements; and, students involved in the cooperative method of instruction receiving their on-the-job training in jobs directly related to the content being taught in the classroom.

C. Number of Programs Dropped - Secondary (see Tables 3 & 4)

D. Personnel Development - Secondary

A scholarship program for individuals desiring degree certification in vocational education attained fruition. Information on the Vocational Education Prospective Teacher Scholarship was mailed to over 200 different organizations including local school systems, postsecondary institutions, and institutions of higher education. Ninety-five (95) applications were received and a review team made scholarship recipient recommendations. The Division of Vocational Education made the selection of 20 recipients. There are 25 recipients from the previous years' scholarships continuing their vocational teacher preparation.

Vocational education certification guidelines continued to be in the process of revision. This activity is still receiving input from various groups.

The Division of Vocational Education Management Plan included specific goals and objectives for the training of employed vocational personnel including teachers, counselors, teacher educators, and state and local administrators. This includes priorities in new and related fields, equity, and special populations. The plan emphasized personnel development activities. There were 68 training activities which involved 5,669 vocational education participants as a result of the plan. Priority was given to new and related fields, equity, and special populations. The 5,669 participants included local vocational instructional and support personnel, vocational teacher educators, and vocational administrators at the local and state level. The training activities offered were based on a needs assessment which included prior training activities, vocational leadership advice, participant identified needs, and the Vocational Education Program Review and Improvement Process. The major thrust of training was technical update.

The Division of Vocational Education in concert with other Department of Public Instruction staff gathered data on the supply and demand of vocational education personnel. This data was shared with selected individuals and organizations for use in planning for vocational teacher education preparation.

E. Curriculum Development - Secondary

The following curriculum thrusts were conducted to help local programs improve their offerings.

Agriculture: Reprinted course guides and C/TIBs, Developed competencies for "Agriculture in our Lives", Purchased Curriculum Materials: SOE Handbook, 4 sets of SOE Records.

Business and Office: Revised competency goals and objectives for 16 courses, Revised Education for Business Planning Guide, Prepared Small Business/Entrepreneurship Guide in cooperation with Marketing.

Heath Occupations: Purchased and distributed HOE Clinical Education Modules for HOE II, Served in an advisory capacity to NCSU's research project for preparing HOE I and II competency goals, objectives, and test items.

Home Economics: Completed Proficiency Event Revision, Prepared Exploring Home Economics - Test Items, Printed and distributed year-long consumer home economics course, Purchased curriculum materials for: Teen Living, Independent Living, Child Care Services, Exploring Home Economics.

Industrial Arts/Technology Education: Purchased guides for teacher use in manufacturing, construction, and communications, Purchased 20 different curriculum guides for distribution and support of new curriculum, Prepared introduction to Engineering curriculum pilot guide, Purchased materials for technology demonstration workshops, Purchased technology education planning guides for teachers and teacher educators.

Marketing Education: Paid Mark ED, Membership, Prepared Small Business/Entrepreneurship Guide in cooperation with BOE, Prepared brochure for student recruitment, Prepared 44 competency-based event assessments for district and state competition, Prepared DECA competency based events video, Printed 800 DECA handbooks.

Trade & Industrial Education: Revised Furniture/ Cabinetmaking competencies and curriculum guide, Prepared industrial maintenance competencies and curriculum guide.

Vocational Development: Prepared 6th grade career exploration competencies and curriculum guide.

Other: Prepared and printed co-op manual, Prepared revision to P.O.S., Prepared Equipment Standards.

F. Improved Career Guidance/Industry-Education Coordination - Secondary

1. Accomplishments this year in the State's priorities (indicated in the State Plan) for program improvement, innovation, and expansions:

A statewide system of business-industry coordination and placement services was expanded in the areas of planning, implementation, and evaluation of the program. Approximately 95% of the coordinators developed functional yearly programs of work that were submitted to appropriate local school administrative unit personnel.

The membership of the state Advisory Committee for Vocational Development was updated. This committee consists of representatives from business, industry, labor, higher education, administration, and constituent groups. It functions to provide input from the community, strengthen linkages with secondary vocational programs, and make recommendations for evaluating and updating the career guidance/industry-education coordination programs.

On-site program reviews for 20% of the local school administrative units in the state were conducted. This process serves as one determinant of needed implementation strategies for program improvement.

A coordinated effort with the Vocational Honor Society was conducted. This program serves as an incentive to promote scholarship, citizenship, pride, and enthusiasm in students enrolled in vocational education programs.

2. Methods and procedures used to implement program improvement activities according to the identified priorities:

A four-day vocational development section at the Annual Vocational Education Summer Workshop was provided. Counselors, industry-education coordinators, and job placement coordinators were invited. Participants updated their program components, e.g. using occupational data and information, developing personalized education plans, analyzing job trends relative to career planning, and appraisal of "the state-of-the-art" as an instructional tool.

Three staff development activities were sponsored in each of the eight regions through the statewide networking Regional Leadership Council system. The workshops involved 650 industry/education coordinators and were a concentrated effort to improve program effectiveness, particularly in the areas of job training and permanent employment.

Official guidelines for certifying persons who deliver vocational development services to students enrolled in North Carolina's vocational education programs were approved by the State Board of Education.

3. Descriptions of programs/services which are an example of the impact of vocational education funds on youth are as follows:

The four-year personalized education plan is a cooperative, tentative, charting process; after an assessment of individual interest, achievement, and/or aptitude has been made of needed courses in order to accomplish the current career goal objective. Each student enrolled in vocational education must have a four-year personalized education plan. This plan lists by grade the courses (and sometimes the activities) the student will need through the completion of high school in order to complete his/her career goal. It also lists career options after high school. The plan is made after an assessment of each student's interest, achievement, and aptitude levels have been determined. The listing of courses is made in pencil, so that course changes can be made as the student's interests and needs change. These plans are closely monitored to keep them updated. The advantage of this process is that students proceed through school with definitive career goals and exit from the school on a career course to enter the labor market with marketable skills or to advance their education in an appropriate post-secondary institution.

The internship/shadowing program is one that is increasing in participation. The program enables students to work and/or observe, over a given period of time, their high-interest occupation. The student is able to ascertain if the duties expected are those desired and the environment is conducive to and compatible with their expectations. If not, the student is able to explore other occupations in which he/she finds satisfaction. The program provides students an on-site observation of the world of work in a high-interest occupation in which these students can make valid decisions pertaining to their futures.

G. Equipment

The Equipment Standards, prepared for each vocational course, was reviewed by teachers, business/industry, and local administrators during 1987-88. Based upon their input, the Equipment Standards guidebook were revised and distributed during the Fall, 1988. These standards are to help local school systems identify their deficiencies and determine resources required to have up-to-date equipment.

H. Research - Secondary

1. Research, development, and exemplary activities funded through the Carl D. Perkins Act by the Division of Vocational Education, North Carolina Department of Public Instruction, during Program Year 1987 operationalized the Carl Perkins Act through projects focused on program expansion, innovations, use of technology, and assessment and/or demonstration of new methods for delivering programs, training, and technical services. Continuing changes in

technologies and work environments are creating obsolescence in curriculum content and instructional methodologies, teacher preparation and training, delivery of services, and access to the latest state-of-the-art materials, software, and hardware by local school systems, especially in sparsely populated areas for students from both regular and special needs populations. A changing emphasis from the lay and legislative communities has increased the need for valid documentation of student achievement in vocational education. Multiple projects (described below) were designed and initiated or continued in an attempt to provide strategies for coping with each of these factors. In addition, two efforts initiated in FY87 were continued to improve the research and development process.

.Following the release of the Request for Proposals (RFPs), a two-day PROPOSAL WRITING/PROJECT MANAGEMENT WORKSHOP was conducted for 45 participants in an effort to improve the quality and increase the quantity of proposals received. Participants represented local vocational administrators, teacher educators, community college personnel, teachers, equity coordinators, and some public/private community groups.

.In order to more effectively diffuse research and development results, a PROGRAM IMPROVEMENT CAROUSEL was added to the Annual Vocational Education Summer Workshop. The 1987 carousel featured 25 "New Ideas and Promising Practices" in a round robin set of four 30-minute presentations. Also featured were displays of state developed/adopted curriculum materials for each of the eight vocational program areas. Approximately 1200 of the workshop participants attended the carousel; requests for additional information were received and handled throughout program year 1987.

Specific research and development projects initiated and/or continuing in program year 1987 were:

a. DownEast Instructional Telecommunications Network (DITN) - Rural Education Institute, Greenville, North Carolina.
b. Joint North Carolina Vocational Education - U.S. Army Electronics Project.
c. Demonstration Model for Documenting Competency Achievement of Special Needs Students in Association with JTPA - Phase II Cumberland County Schools.
d. Field Test of a Computerized Model for Assessing and Documenting Student Competency Achievement Phase II - Richmond County Schools.
e. Training Strategies for Building Vocational and General Education Competencies Into All Programs - A&T State University.
f. Computerized Correlation of Communications Skills/Competencies Taught in Vocational Education Programs - North Carolina State University.

g. Developing Pre/Post Test-Item Banks for Selected Vocational Programs - Kings Mountain City Schools and N. C. State University.

h. Developing and Validating a Standardized Basic Electronics Proficiency Test and Test-Item Bank - Appalachian State University.

i. Demonstrating the Use of Army-Developed Interactive Laser Videodisc Software in a High School Electronics Course - Cleveland County Schools and Caldwell County Schools.

j. Implementing Alternative Collaboration Strategies Between School Programs and Business and Industry - Rural Education Institute, Western Carolina University.

k. Applying the Teacher Effectiveness Model to Competency-Based, Individualized Instruction in Vocational Laboratory/Shop Programs and Courses - Wake County Schools.

l. Validation Pilots for Vocational Competency Achievement Tracking System (VoCATs) - Moore, Craven, Vance, and Jackson County Schools.

2. Methods and procedures used to implement the new and continuing projects program improvement according to the identified priorities are specified in each of the following project descriptions:

a. DownEast Instructional Telecommunications Network (DITN) - Rural Education Institute, Greenville, North Carolina.

The Division of Vocational Education and the Rural Education Institute at East Carolina University, Greenville, NC have designed and are implementing a major program for providing rural students access to an innovative curriculum which integrates academic and vocational education. Five small high schools - Aurora, Bath, Belhaven, Mattamuskeet, and Ocracoke in Hyde and Beaufort counties are the model sites.

Highlights of the model include: (1) providing students with a rigorous, new curriculum - Principles of Technology - integrated with mathematics and communication skills; (2) developing vocational activities and strategies that assist students in meeting competencies for present and emerging technical careers; (3) meeting student graduation requirements for vocational and academic courses; (4) utilizing technology in the delivery of the program by linking the sites with interactive audio, video, and computer capabilities; (5) providing access to state-of-the art science, vocational and telecommunications equipment and techniques through a mobile unit and teacher; (6) networking teachers, students, materials, equipment, and other human resources by electronic means; and (7) providing multi-approaches to classroom management and instruction. DITN is an alternative system of delivering vocational education to students in rural isolated areas of North

Carolina. It is a network of five high school classrooms linked by audio conferencing equipment, electronic chalkboards, and computers with modems serving as the delivery system for teaching the Principles of Technology physics/vocational course. A master teacher serves as the coordinator of the curriculum, the science and vocational labs, activities, and the teleconferencing. Teachers at each of the five schools elaborate on the science demonstrations and follow-up with the assignments and products that are developed by the students. They also teach mini-lessons on the teleconferencing system.

Small school systems serving sparsely populated areas often have difficulty in providing their high school students with some of the vocational learning opportunities offered in more urban areas. Yet these students have to compete for the same jobs in a workplace which is becoming more technical and academically demanding. The job market demands are greater than the supply in the areas of electronics and telecommunications, repair and maintenance, and service related jobs.

The North Carolina Basic Education Plan will move local school systems closer to providing better services for students attending small, rural schools who want access to a variety of vocational courses, but creative planning using communications technologies will be necessary. New approaches to class scheduling, instructional methods, and the utilization of personnel and instructional technology will be required. The DITN model serves as a prototype demonstration model for NC--planned by school administrators and teachers-in conjunction with the state and the Rural Education Institute at East Carolina University.

DITN provides a step-by-step process for using teachers, instructional technology, a mobile lab, and other resources in an interactive network to deliver courses which could not be taught otherwise because of lack of personnel, lab equipment, and other resources.

Research and development of alternative delivery systems is encouraged in the guidelines of the federal legislation and is the basis for the design and implementation of the DITN model. The evaluation at the end of the first school year has shown that students can achieve in course content using these alternative systems and that staff development for teachers can be delivered on the system.

b. Joint North Carolina Vocational Education - U.S. Army Electronics Project.

At the beginning of the 1985 school year, 18 Trade and

Industrial Education electronic programs throughout North Carolina participated in the joint North Carolina Vocational Education - U.S. Army Electronics Project. The purpose of the project was to articulate the curriculum of the secondary T&I programs with the Signal Corps Basic Electronic Training program at Fort Gordon, Georgia. High school junior and senior Trade and Industrial Education electronics students from 23 local school administrative units participated in the project.

Instructors were given two weeks of intensive training at Fort Gordon during the summer. While there, they received technical update, teacher training, curriculum articulation, precision soldering, and interactive laser video simulation training. Selected eleventh grade electronic students from the participating high school programs spent one week during the summer at Fort Gordon visiting the facilities and the job related programs.

Program improvements resulting from additional efforts are under way for North Carolina vocational education programs to work with the Army in a program which involves 180 academic competencies which are required to be successful in technical skill areas. The next efforts will be in the areas of transportation and student assessment.

Program improvements resulting from this project have been an expansion of the U.S. Army electronics curriculum materials to the existing North Carolina electronics programs. Staff development has been provided for the electronics instructors. Assistance in job opportunities for young people has been expanded in the field of communications-electronics.

Participation in the project has increased the competencies of electronics instructors from the point of content and methodology and provided administrators with comprehensive overview and procedure used in the U.S. Army to improve the quality of programs. It has contributed to the division effort to assure that state-of-the-art curriculum is available to local teachers. It also acted as an incentive to LSAUs and motivated them to purchase state-of-the-art equipment for electronic programs.

Expansion of the project has benefited seven other states which now utilize the facilities at Fort Gordon. A computerized test-item bank is now available for use by secondary programs and the U. S. Army in assessing the knowledge and skills of graduates and trainees.

c. Demonstration Model for Documenting Competency Achievement of Special Needs Students in Association with JTPA, Phase II - Cumberland County Schools.

Because Cumberland County Schools continued this project in program year 1986, junior and senior high special needs students enrolled in the job training vocational instructional program (JT) at the high school level will have access to a computer-managed and individualized instructional process.

The vocational director and vocational evaluation coordinator for Cumberland County Schools are conducting a research project to demonstrate the use of a computer management system documenting the employability skills achievement of special needs students in association with the local JTPA/PIC.

"The Competency-Based Employability Skills Program" instructional guide was modified to a format which can be computerized for use in the project. Software including a classroom management system, a test generator, progress reporter, end-of-program individual student achievement reporter, instructional activities bank, and grade tabulator was purchased and demonstrated in the project activities.

Workshops were conducted to instruct the Job Training teachers in the use of the instructional guide, computer hardware, and software; to assure their competence prior to initiation of the project activities.

Student achievement data was collected and tabulated by individual courses as well as by all eight course sites used in the project. Personnel involved in the project evaluated the utility of the system at the high school level. This information along with the student achievement data was used by a steering committee to prepare recommendations and a detailed plan for replication in local school systems in North Carolina.

A demonstration center was established to serve as an observation site for personnel from across the state; in addition, project staff conducted training workshops for selected vocational personnel across the state.

d. Field Test of a Computerized Model for Assessing and Documenting Student Competency Achievement, Phase II - Richmond County Schools.

A demonstration model for "Obtaining Competency-Base' Achievement Data on Students Enrolled in High School Vocational Programs" is being developed and piloted under the direction of the vocational director of Richmond County Schools. As part of the project activities, all competencies and three test items per competency for each

vocational offering are being entered into computer files using the DATABANK software.

Project procedures involved the computer generation of pre and post-tests for each of the vocational programs offered at Richmond County Senior High School. Pre and post-tests (which include both written and performance test items) were being administered to students in the respective courses. Student performance on the tests was analyzed per class section, per program, per school, per teacher, and per level for use in creating a sound base for curriculum content decisions. Computerized management of the assessment activity is made possible via the features of a software package - DATABANK.

A highlight of the project is that, for the first time, achievement results reflecting vocational student performance is available for local level decision making. It should be noted that Richmond County Schools has been implementing competency-based achievement assessment for the past five years using teacher-developed tests and manual analysis procedures. Use of a computerized management system is making it possible to expedite the availability of data on individualized student performance prior to and following instruction and ease the teacher paperwork load.

Use of an electronic process for managing the measurement and documentation of student achievement of competencies makes it possible for (1) customized access to a computerized system for generating valid criterion-referenced tests from banks of test items (with each bank to include measures of both cognitive and performance proficiency) which are keyed to course competencies, (2) student responses and teacher ratings of student performance recorded on machine-readable (scanner) forms, (3) computerized scoring of tests, development of personalized learning prescriptions, and preparation preparation of grades for report cards, and preparation of itemized competency reports for each student using customized software at the local level, and (4) aggregation of student achievement performance data-especially gain scores-by course/program and competency for use in marketing program success stories and for use in analyzing curricula for revisions or teacher staff development needs.

Gain scores (post-test minus pre-test) can be computed per student, per competency, per class section, per course, per program, per level in sequence, per teacher. Data summaries can be prepared and used locally at the system level to prepare reports on student achievement (Comprehensive Planning Process/State Accreditation - local newspapers) and for curriculum and instructional analyses for the following year. Item analyses can be used for revision of the test-items in each of the banks.

During program year 198", the Richmond County site also generated end-of-course tests which were administered to Vocational students in four pilot validation sites. Evaluation of the process is continuing.

e. Training Strategies for Building Vocational & General Education Competencies Into All Programs, Phase II - A&T State University, Greensboro, North Carolina.

Articulated efforts between general and vocational education education continue to have high priority for the improvement of vocational programs in the public schools of North Carolina. Several previous research projects in North Carolina and related efforts in other states have focused on the identification of correlated competencies between vocational programs and basic general education skills in math, science, social studies, and communication. Recognizing that basic general education knowledge and skills are prerequisite to student success in vocational programs and that vocational programs provide opportunities for students to apply/enhance basic/general education skills in meaningful, real-life settings, the Division funded this project in an attempt to prepare teaching personnel to effectively reinforce basic skills in vocational classrooms.

Project procedures involved the preparation of a matrix to illustrate the match between selected basic skills and the competencies established for vocational education use in the North Carolina Competency-Based Curriculum Teacher Handbooks, the selection of a training package, the preliminary training of eight vocational teacher educators to conduct orientation sessions with selected groups of teachers in each of the eight education regions of the state. The training package selected was one using a series of video-taped segments of teachers demonstrating techniques for incorporating basic skills in actual vocational classrooms/labs/shops.

During program year 1987, personnel in eight school systems were trained to integrate basic skills. Pre and post tests of basic skills were administered to students in selected vocational and control classes to determine the effectiveness of the training.

f. Computerized Correlation of Communications Skills/Competencies Taught in Selected Vocational Education Programs, North Carolina State University, Raleigh, North Carolina.

In a continuing series of projects designed to provide for the identification of competencies between basic and vocational education programs, the Department of Occupational Education at North Carolina State University in Raleigh began work on the correlation of communication skills in all vocational programs/courses. The intent of the project was first to identify basic communications skills and then to designate those vocational program competencies which depended on, were associated with, or enhance student development of the communications skills.

Project procedures involved the electronic downloading of all vocational and non-vocational competencies from the SDPI IBM files for the North Carolina Competency-Based Curriculum Teacher Handbook, the selection of computer database management software, the establishment of key words to represent curriculum skills, and programming modifications to allow computerized curriculum building, electronic updating of curricula, and on-line linkage with V-TECS and MODAS efforts. An advisory committee for the project (consisting of state and local personnel and selected vocational teachers and non-vocational teachers) was used in the project to verify competency correlation and identify the key words used in the data-based management program. As the project continues, training workshops will be conducted with members of curriculum teams, state staff, and selected local personnel to enable effective use of the curriculum files for statewide vocational program updating and locally-customized curricula.

g. Updating Competencies and Developing Pre/Post Test-Item Banks for Selected Vocational Programs - Kings Mountain Schools and N. C. State University.

In a continuing effort to provide local vocational teachers and administrators with an easily accessible and valid system for measuring and documenting student competency achievement, the Division of Vocational Education initiated the support of projects (with limited funding) in which vocational personnel work to expand and validate competency/test-item banks for vocational programs they are currently teaching. Three such efforts underway during program year 1987 were in the area of Home Economics Education, Industrial Arts/Technology Education, and Health Occupations Educations.

Project procedures involved the teacher/developer in working with state staff and representative members of curriculum teams to update the outcome competency listings for the programs, attending a workshop on constructing/editing criterion-referenced test items for each competency, constructing and editing a minimum of six test items for three courses and the field administration of these items to students currently or previously enrolled in the programs. Subsequent use of the test-item banks which result from these efforts will be their entry into the statewide computerized competency/test-item banks being created for each vocational program/course. Eventually, statewide end-of-course tests and/or locally customized tests can be randomly generated for measuring and documenting student achievement in vocational programs.

h. Developing and Validating a Standardized Basic Electronics Proficiency Test and Test-Item Bank - Appalachian State University.

For the past several years, North Carolina has collaborated with the U.S. Army in developing a national pre-service electronics training program which is intended to give high school students a headstart in acquiring the technical competencies needed for entry and/or advanced placement status in the electronics training program at Fort Gordon, Georgia. Little was known regarding the specific basic electronics knowledge and skills of high school students and graduates. This project was initiated to fill the need for a valid measure to document the level at which secondary students are being prepared for post high school training or jobs in the field of electronics.

Project procedures involve:

.Conducting a search to locate existing test items and their sources; obtaining copies of tests/test items and correlating these items with the Teacher Handbook competencies for Electronics.

.Identifying secondary school and U.S Army personnel with technical expertise in electronics to serve as the "face validation team" and the "weighting team" and assuring that each item is coded and that each competency is weighted according to an agreed upon table of specifications for the test.

.Securing the services of a "test-item construction" specialist to screen and edit each potential item.

.Arranging for the entry of edited items into a computer file using DATABANK software.

.Using the DATABANK software package to generate equivalent forms of the test.

.Arranging with the U. S. Army (Fort Gordon) and North Carolina secondary schools involved in NPET for students/trainees to be involved in a pilot test of the instrument(s).

.Administering the tests and collecting appropriate supportive data.

.Preparing grahics to reflect student proficiency results (and item analyses).

The final recommendations will address specifically the use of a standardized instrument to measure/document the level of competency achievement for high school students in cooperation with an army training program.

1. Demonstrating the Use of Army-Developed Interactive Laser Videodisc Software in a High School Electronics Course-Cleveland County Schools, Shelby, North Carolina.

Participants in this project were restricted to those individuals who had been involved in the collaborative electronics effort between North Carolina and the U. S. Army. It was intended that project personnel (Cleveland County Schools) purchase specified interactive videodisc laser hardware to support the delivery of electronics software to be provided by the U. S. Army, arrange for in-service of instructors, and to obtain specific data on its utility and effectiveness as a primary or supplementary instructional tool for high school students. Both the design and implementation phases of this project are based on coordinated efforts with identified state staff and U. S. Army personnel.

Procedures used in the project included working with a steering committee, SBE coordinator, and National Program for Electronics Training (NPET) coordinator project personnel.

.Designed strategies for securing, installing, and maintaining necessary hardware for the project in 2-3 sites with a minimum of two stations per site.

.Made arrangements with administrators in 2-3 LEAs for schools, programs, and personnel to serve as field-test sites as specified by the deputy director, Division of Vocational Education.

.Posed research questions regarding the utility, feasibility, and effectiveness of the hardware-software configuration.

.Arranged for teaching personnel to participate in training sessions and for the participation and organization of students in each of the selected sites.

.Implemented the steps necessary to install the hardware and software for use in the pilot sites; prepared pre/post tests for students; and collected the data.

Lack of access to the Army-developed software and hardware specifications were a continued deterrent throughout the project.

Project personnel will be continuing the project and working with an advisory committee to analyze the data and prepare an executive summary of the report with specific recommendations regarding the use of interactive videodisc systems as a tool in secondary vocational programs.

j. Implementing Alternative Collaboration Strategies Between School Programs and Business/Industry - Rural Education Institute, Western Carolina University, Cullowhee, North Carolina.

As its primary purpose, the project intended to provide a comprehensive knowledge base and a source of technical assistance for local use related to school/business collaboration.

Project personnel from the Rural Education Institute at Western Carolina University conducted a search (in-state and national) of successful collaborative efforts. Through the search, project staff were able to identify and locate successful strategies in operation as well as their designers and users in North Carolina and several other states. The data is now being summarized and the final report will include recommendations regarding the feasibility and utility of the strategies for secondary vocational education programs in other North Carolina LEAs.

In addition, project personnel will be conducting orientation sessions with vocational educators across the state to assist them in the implementation of those alternative strategies designated as successful/collaborative efforts with business/industry in local/regional communities.

k. Applying the Teacher Effectiveness Model to Competency-Based, Individualized Instruction in Vocational Laboratory/Shop Programs and Courses - Wake County Schools, Raleigh, North Carolina.

During the past three years years, the North Carolina Department of Public Instruction researched the Effective Teacher Training (ETT) model, created a thirty-hour training program for educators, and began delivering the training to local personnel (including vocational education teachers) in sites across the state. During the same period, pilot testing was initiated for a new Teacher Performance Appraisal (TPA) system focusing on thirty-eight practices and personalized Professional Development Plans (PDPs). Principals of local schools have primary responsibility for the latter two activities.

Concepts and practices within the ETT model and the 30-hours training modules are considered applicable to teachers in regular classrooms in all instructional disciplines. The training program has been well received and, from all indications, effective in providing for improvement of classroom techniques.

However, the current ETT model and training package include few examples which vocational education teachers may use for direct application in hands-on or off-site teaching-learning situations (e.g., In addition to the teaching techniques and student learning experiences used in the regular classroom, the learning environment within vocational education classes may include hands-on laboratory and/or shop experiences, supervised on-the-job training, live projects or other production work activities, and an individualized approach to instruction). This project is the first year of a three-year project funded by the Division of Vocational Education and being conducted by Wake County Schools. The ultimate outcome is to assure that vocational teachers have access to vocational education companion training modules based on the ETT model in the conduct of their specialized teaching responsibilities.

Project procedures include:

.Developing an annotated resource list of existing training materials and strategies proved successful in enabling teachers to become proficient with the 38 practices identified in the TPA.

.Establishing a procedure to determine the major instructional improvement areas (from the TPA practices) needed by vocational education personnel as identified in their Professional Development Plans. (The procedure will result in a computerized regional summary of personnel development needs for vocational personnel.)

.Determining if existing training materials and strategies will meet training needs of vocational personnel.

.Conducting and evaluating these practices as staff development activities.

.Adopting, adapting, and/or developing training modules to fill the training gaps needed by vocational education personnel.

.Fieldtesting the effectiveness of the training modules in providing the appropriate type and level of training to vocational education teachers.

1. Validation Pilots for Vocational Competency Achievement Tracking System (VoCATS) - Moore, Craven, Vance, and Jackson Counties.

   During program year 1987, vocational personnel in four local education agencies served as initial pilot sites for the VoCATS process. Personnel participated in a training workshop, received camera-ready copies of 100-item competency tests for some 40 courses, edited items in existing competency/test-item banks (C/TIBs), administered tests to some 15,000 students, and critiqued the VoCATS delivery strategy for utility and effectiveness. Modifications are now being made in the process based on these recommendations. Additional pilot and validation sites are projected for the next three years.

I. Exemplary programs developed.

Exemplary funds were allotted to local school systems for the following innovative projects:

Applying Basic Skills (6 LEAs)
Entrepreneurship Challenges (4 LEAs)
Expanded Computer Applications in Agriculture Education (8 LEAs)
Using Telecommunications in Various Business Courses (2 LEAs)
Incorporating Advanced Business Computer/Management Training (2 LEAs)
Using Spreadsheet Software in Select Business Courses (1 LEA)
Using Computer/Interactive Video Health Care Software (1 LEA)
Child Care Services for Infants & Toddlers (3 LEAs)
Entrepreneurship in Home Economics (1 LEA)
Software for Home Economics (4 LEAs)
Innovative Technical Education Certified Programs (4 LEAs)
Using Desktop Publishing in Graphics & Office Occupations or Advanced Typewriting (4 LEAs)
Tourism Marketing Curriculum Refinement (2 LEAs)
Marketing Education Classroom in Shopping Center (1 LEA)
Principles of Technology (6 LEAs)
Computer Assisted Manufacturing (2 LEAs)
Job Opportunities Convention for Seniors (8 LEAs)
Youth & Careers: A Seminar for Parents (3 LEAs)

II.

J. Other

1.

ALLOTMENT DATA
FISCAL YEAR 1987/88
FOR VOCATIONAL ED-PROGRAM IMPROVEMENT
CATEGORY 52 TO 65
REPORT DATE 06/08/88

LEA NUM	LEA NAME	CURRENT AMOUNT
010	ALAMANCE COUNTY	38,328.00
011	BURLINGTON CITY	34,250.00
020	ALEXANDER COUNTY	25,280.00
030	ALLEGHANY COUNTY	47,298.00
040	ANSON COUNTY	54,637.00
050	ASHE COUNTY	57,899.00
060	AVERY COUNTY	48,929.00
070	BEAUFORT COUNTY	55,453.00
071	WASHINGTON CITY	55,453.00
080	BERTIE COUNTY	62,792.00
090	BLADEN COUNTY	64,423.00
100	BRUNSWICK COUNTY	63,608.00
110	BUNCOMBE COUNTY	58,715.00
111	ASHEVILLE CITY	42,405.00
120	BURKE COUNTY	38,328.00
130	CABARRUS COUNTY	38,328.00
132	KANNAPOLIS CITY	26,095.00
140	CALDWELL COUNTY	43,221.00
150	CAMDEN COUNTY	38,328.00
160	CARTERET COUNTY	57,084.00
170	CASWELL COUNTY	51,375.00
180	CATAWBA COUNTY	33,435.00
181	HICKORY CITY	21,203.00
182	NEWTON CITY	17,125.00
190	CHATHAM COUNTY	25,280.00
200	CHEROKEE COUNTY	53,822.00
210	CHOWAN COUNTY	49,744.00
220	CLAY COUNTY	45,667.00
230	CLEVELAND COUNTY	50,560.00
231	KINGS MOUNTAIN CITY	38,328.00
232	SHELBY CITY	38,328.00
240	COLUMBUS COUNTY	68,499.00
241	WHITEVILLE CITY	52,191.00
250	CRAVEN COUNTY	65,239.00
260	CUMBERLAND COUNTY	69,315.00
270	CURRITUCK COUNTY	44,852.00
280	DARE COUNTY	22,833.00
290	DAVIDSON COUNTY	47,298.00
291	LEXINGTON CITY	26,911.00
292	THOMASVILLE CITY	22,833.00
300	DAVIE COUNTY	39,959.00
310	DUPLIN COUNTY	68,499.00
320	DURHAM COUNTY	52,191.00
321	DURHAM CITY	44,036.00
330	EDGECOMBE COUNTY	57,084.00
331	TARBORO CITY	48,929.00
340	FORSYTH COUNTY	47,298.00
350	FRANKLIN COUNTY	55,453.00
351	FRANKLINTON	43,221.00
360	GASTON COUNTY	47,298.00
370	GATES COUNTY	43,221.00
380	GRAHAM COUNTY	43,221.00
390	GRANVILLE COUNTY	58,715.00
400	GREENE COUNTY	49,744.00
410	GUILFORD COUNTY	47,298.00
411	GREENSBORO CITY	47,298.00
412	HIGH POINT CITY	39,143.00
420	HALIFAX COUNTY	69,315.00
421	ROANOKE RAPIDS CITY	57,084.00
422	WELDON CITY	53,006.00
430	HARNETT COUNTY	65,239.00
440	HAYWOOD COUNTY	58,715.00
450	HENDERSON COUNTY	48,113.00
451	HENDERSONVILLE CITY	23,649.00
460	HERTFORD COUNTY	57,899.00
470	HOKE COUNTY	61,977.00
480	HYDE COUNTY	53,006.00
490	IREDELL COUNTY	43,221.00
491	MOORESVILLE CITY	22,833.00
492	STATESVILLE CITY	26,911.00
500	JACKSON COUNTY	53,006.00
510	JOHNSTON COUNTY	69,315.00
520	JONES COUNTY	43,221.00
530	LEE COUNTY	50,560.00
540	LENOIR COUNTY	57,084.00
541	KINSTON CITY	53,006.00
550	LINCOLN COUNTY	38,328.00
560	MACON COUNTY	48,929.00
570	MADISON COUNTY	58,715.00
580	MARTIN COUNTY	61,977.00
590	MCDOWELL COUNTY	44,036.00
600	MECKLENBURG COUNTY	
610	MITCHELL COUNTY	41,852.00
620	MONTGOMERY COUNTY	48,929.00
630	MOORE COUNTY	54,637.00
640	NASH COUNTY	65,239.00
641	ROCKY MOUNT CITY	57,084.00
650	NEW HANOVER COUNTY	66,870.00
660	NORTHAMPTON COUNTY	62,792.00
670	ONSLOW COUNTY	69,315.00
680	ORANGE COUNTY	35,066.00
681	CHAPEL HILL CITY	35,066.00
690	PAMLICO COUNTY	47,298.00
700	PASQUOTANK COUNTY	57,084.00
710	PENDER COUNTY	59,530.00
720	PERQUIMANS COUNTY	48,113.00
730	PERSON COUNTY	54,637.00
740	PITT COUNTY	71,761.00
750	POLK COUNTY	30,173.00
751	TRYON CITY	30,173.00
760	RANDOLPH COUNTY	33,435.00
761	ASHEBORO CITY	17,125.00
770	RICHMOND COUNTY	58,715.00
780	ROBESON COUNTY	76,654.00
781	FAIRMONT CITY	52,191.00
782	LUMBERTON CITY	60,346.00
784	RED SPRINGS CITY	52,191.00
785	ST. PAULS CITY	48,113.00
790	ROCKINGHAM COUNTY	36,328.00
791	EDEN CITY	42,405.00
792	WESTERN ROCKINGHAM CITY	38,328.00
793	REIDSVILLE CITY	38,328.00
800	ROWAN COUNTY	42,405.00
801	SALISBURY CITY	17,941.00
810	RUTHERFORD COUNTY	54,637.00
820	SAMPSON COUNTY	59,530.00
821	CLINTON CITY	47,298.00
830	SCOTLAND COUNTY	61,161.00
840	STANLY COUNTY	39,143.00
841	ALBEMARLE CITY	22,833.00
850	STOKES COUNTY	50,560.00
860	SURRY COUNTY	57,084.00
861	ELKIN CITY	36,697.00
862	MOUNT AIRY CITY	40,774.00
870	SWAIN COUNTY	50,560.00
880	TRANSYLVANIA COUNTY	35,881.00
890	TYRRELL COUNTY	48,113.00
900	UNION COUNTY	43,221.00
901	MONROE CITY	26,911.00
910	VANCE COUNTY	63,608.00
920	WAKE COUNTY	42,405.00
930	WARREN COUNTY	61,161.00
940	WASHINGTON COUNTY	53,822.00
950	WATAUGA COUNTY	53,006.00
960	WAYNE COUNTY	65,239.00
962	GOLDSBORO CITY	53,006.00
970	WILKES COUNTY	61,161.00
980	WILSON COUNTY	65,239.00
990	YADKIN COUNTY	54,637.00
995	YANCEY COUNTY	49,744.00
TOTAL		6,700,000.00

2. How New Formula Allotments Contributed to Improving Programs

Program improvement funds are allotted to local education administrative units based on a weighed formula which includes the following factors: 1) concentration of low income families and 2) average daily membership in grades 7-12. The weighed formula ensures that more funds are allotted to local school administrative units located in economically depressed areas, than are allotted to those not located in economically depressed areas. The implementation of this formula has provided those local school administrative units with the greatest needs to make substantial improvements in vocational education programs through the purchase of additional equipment and instructional materials, to increase participation in staff development activities, and the expansion of programs to meet the particular needs of individuals located in the economically depressed areas of the state.

3. How Principles of Technology Contributed to Improving Programs

Principles of Technology is contributing to the improvement of programs by attracting more students into vocational education and providing the students with instruction in applied science. The course is designed as a foundation for future technicians in a wide range of technologies. It enables students to study the physical principles underlying modern technology. It is taught in 65 high schools to approximately 3,500 students in grades 10, 11 and 12. The students perform lab experiments on up-to-date equipment and apparatus used by lab technicians as they are related to mechanical, electricity, fluid and thermal systems.

4. How Military/Education Activities Contributed to Improving Programs

Vocational Education programs have been improved because of military involvement in the following ways.

A. Staff has participated in the National Teltrain conference focusing on uniqueness of technology.

B. Electronic teachers have continued the updating and upgrading through workshops at Ft. Gordon.

C. Selected students have gained advanced opportunities through workshops at Ft. Gordon.

D. The job skill programs have been provided to selected school systems to review and include more instructional programs.

E. Military personnel have continued sessions for teachers at our summer workshops.

F. Additional materials have been obtained from the military to assist in updating their curriculum.

G. The Army Recruiting services have provided assistance to local school personnel in better understanding Army career opportunities.

5. How Follow-Up Report on Vocational Education Students Contributed to Improving Programs

Surveys of nearly 50,000 students who completed vocational programs in 1986-87 have been used by local and state personnel to evaluate the effectiveness of programs and to highlight those areas of specific programs where improvement is needed. Responses to questions dealing with the education and work status of these students in the year following completion of the program show the percentage of unemployment among this group and the percentage continuing their formal education beyond high school.

Approval of local programs is dependent upon state plan data indicating sufficient job openings for program completers or follow-up data showing an unemployment rate for completers lower than the rate for youths age 16-19 in the local unit. In those schools and local units where the unemployment rate of completers exceeds the county unemployment rate for all youths aged 16-19, that program is analyzed to determine the cause; improvement strategies are included in the local plan for vocational education.

Students rate their vocational program on usefulness in preparation for work and further education. The curriculum in vocational courses is examined to determine the relationship of survey responses to the course objectives and outcomes as established by the instructor.

Students indicate in the survey those knowledges and skills they wish they had learned more about. Local unit personnel use this as a guide for revising course content in the program areas to meet student needs.

The statewide summary data for each of the skills program areas has been used by state staff to highlight those local programs where technical assistance is needed and to indicate possible curriculum revisions at the state level.

The student follow-up data has been used in approximately 30 local units in 1987-88 to assess program strengths and weaknesses during the program review process. Strategies for overcoming the weaknesses are then included in the basic improvement plan. This plan must be reviewed annually by local personnel to determine their progress in achieving improvements that have been identified. See Table 5 for a sample of the statewide summary student follow-up data.

6. How Dissemination of Data Contributed to Improving Programs

Data used for program planning, improvement, and evaluation is collected through the local administrative units and processed by the Vocational Education Information System Unit of the Division of Vocational Education. Reports of student enrollment, completer follow-up surveys, and employer surveys are disseminated to state staff, regional administration, and local administration to improve vocational programs.Data collected in September of each year reveals numbers of students enrolled in Grades 7-12 by state course number in the eight program areas. This is also shown by race, sex, and handicapping condition. This data is made available to local directors of vocational education, regional coordinators, and state level consultants. See Tables 6 and 7 for statewide enrollment totals for Grades 7-8 and for Grades 9-12.

This enrollment data is used in program planning, program review counseling of students, and evaluation at the local level and in planning at the state level.

Responses to a survey of completers of vocational programs are collected in the spring of each year. Data collected in the survey reveals the work and education status of completers, the degree to which the vocational program prepared the student for work or further education, and who influenced most the student's decision regarding vocational program and career choice. The data collected also reveals the skills students wish they had learned more about, the hourly wage being earned by program completers, and the distance from the student's high school to the work site.

This completer data is reported for each local unit in the state along with statewide summary data. Summary survey reports of the local units can then be compared to the statewide totals. This data is used in making decisions related to curriculum revision. During the program review and improvement process this data is used to substantiate perceived strengths or weaknesses of local vocational programs. It is also used when planning local programs to identify those programs where completers can expect to find adequate job opportunities. See Table 5.

Data is collected every other year from employers of completers of vocational programs to determine the quality of the student's work attitude, work quality, and technical knowledge. Employers are asked to compare the vocational completer with other initially hired employees without vocational training. This was done in 1987 but not in 1988.

Employer follow-up data reported to local vocational directors, regional coordinators, and state staff is used by personnel, particularly at the local level, to evaluate the effectiveness of vocational programs in preparing students for entry level employment.

Data provided to local units in the brochure, "1988 Numbers Report," is used in promoting vocational programs to parents, students, business/industry and the general public. Table 8 reflects the information found in this publication.

Table 5

1988 FOLLOW-UP

MAIN LABOR MARKET STATUS OF COMPLETERS OF OCCUPATIONALLY AND NON-OCCUPATIONALLY ORIENTED VOCATIONAL EDUCATION PROGRAMS*

1986-87 Completers
Duplicated Count

Excludes Students Continuing in High School

TOTAL RESPONSES AND PERCENTAGES	Total Responses	% Employed Full-Time	% Employed Part-Time	% Military	% Not Employed, Seeking Part-Time Work	% Not Employed, Seeking Full-Time Work	% Homemaker	% Not Employed, Not Seeking Work	TOTAL COMPLETERS
All Regular Occupationally Oriented Programs	22,264	45%	21%	6%	4%	6%	1%	18%	37,419
Agriculture Education	2,256	54%	16%	8%	4%	5%	1%	13%	3,602
Marketing Education	2,111	45%	23%	5%	4%	5%	2%	17%	3,438
Health Occupations Education	1,095	23%	30%	2%	6%	5%	2%	31%	1,623
Occupational Home Economics	1,105	41%	18%	4%	7%	10%	4%	17%	1,721
Business and Office Education	6,921	31%	28%	3%	6%	5%	2%	25%	11,730
Trade and Industrial Education	8,766	56%	14%	9%	3%	6%	1%	12%	15,283
Principles of Technology	10	20%	20%	20%	10%	0%	0%	30%	22
#Special Non-Occupationally Oriented Programs	404	50%	15%	3%	7%	12%	1%	11%	1,254
All Regular Non-Occupationally Oriented Programs	5,249	36%	20%	6%	7%	8%	2%	21%	10,880
Consumer Home Economics	3,717	35%	20%	5%	7%	9%	3%	21%	7,262
Industrial Arts/Technology Ed	1,532	37%	18%	9%	7%	6%	1%	22%	3,618

#Special separate programs and cooperative education programs for disadvantaged and handicapped students.

*Represents data from 139 of 140 local education agencies.

Table 6

VOCATIONAL EDUCATION ENROLLMENT - DUPLICATED COUNT
VEIS 1 Grades 9 - 12 School Year 1987-88
Statewide Program Totals

Program Area	Total Enrollment	%	White	%	Black	%	A. Indian	%	Asian	%	Hispanic	%
Agriculture	24,899	7	18,978	9	5,126	6	732	13	25	2	38	4
Business & Office Education	122,216	39	84,727	40	34,550	36	1,846	33	712	50	381	43
Marketing Education	18,624	6	12,785	6	5,445	5	299	5	48	4	47	6
Health Occupations	8,161	2	5,423	3	2,484	2	187	4	41	3	26	3
Occupational Home Economics	8,430	3	3,482	2	4,748	5	158	3	22	1	20	2
Trade & Industrial Education	58,028	18	42,043	20	14,820	15	790	14	245	18	130	15
Consumer Home Economics	49,737	15	27,140	12	21,171	21	1,142	20	131	9	153	17
Industrial Arts	19,160	6	13,168	6	5,461	6	368	6	93	7	70	8
Prevocational Education	7,313	2	4,834	2	2,226	2	156	2	80	6	17	1
Principles of Technology	800	1	590	0	198	0	5	0	6	0	1	0
Basic & Vocational Skills	4	0	3	0	1	0	---		---		0	
Special Programs	3,810	1	1,509	0	2,242	2	44	0	6	0	9	1
TOTALS	321,182	100	214,682	100	98,472	100	5,727	100	1,409	100	892	100

Table 7

VOCATIONAL EDUCATION ENROLLMENT - DUPLICATED COUNT
VEIS 2 7th and 8th Grades, School Year 1987-88
Statewide Program Totals

Program Area	Total Enrollment	%	White	%	Black	%	A. Indian	%	Asian	%	Hispanic	%
Agriculture	175	0	124	0	49	0	---		2	0	2	1
Business & Office Education	7,231	7	5,330	8	1,794	6	18	1	72	12	17	5
Trade & Industrial Education	29	0	29	0	0	0	---		---		---	0
Consumer Home Economics	8,381	8	4,966	8	3,105	10	243	17	52	8	15	5
Industrial Arts	9,583	10	6,195	10	3,176	10	134	9	56	10	22	7
Prevocational Education	72,686	73	47,865	73	23,170	73	1,010	71	414	70	227	80
Basic & Vocational Skills	734	1	519	0	207	1	8		1	0	2	1
Special Programs	629	1	409	1	213	1	3	1	2	0	2	1
TOTALS	99,448	100	65,437	100	31,714	100	1,416	100	596	100	287	100

Table 8

1988 NUMBERS REPORT

Student Participation in Vocational Education	1986-87*
Total students in Grades 7-12	504,245
Total students in Grades 7-12 in vocational courses	323,147
Percent of students taking at least one vocational course (Students are counted only once)	64.1%

Fiscal Expenditures 1985-86*

Expenditures in Vocational Education

State/Federal	$129,658,471	75%
Local	40,000,000	25%
	$169,658,471	100%
Expenditure per student in vocational courses	$510	
Expenditure per student in all school programs	$2,915	
Expenditures for all school programs	$3,134,227,984	
Percent of Vocational Education expenditures to all school programs		5%

Vocational Student Organizations 1986-87

	No. Chapters	Members
Future Farmers of America	246	16,024
Future Homemakers of America-- Home Economics Related Organizations	337	11,813
Future Business Leaders of America	269	12,754
Vocational Industrial Clubs of America	440	11,000
Distributive Education Clubs of America	220	10,488
Career Exploration Clubs of North Carolina	312	9,600
Health Occupations Students of America	132	4,634
American Industrial Arts Student Association	41	1,100
Totals	1,997	77,413

*North Carolina Public Schools Statistical Profile 1987

Professional Staff 1986-87

Directors of Vocational Education	151
Vocational teachers & counselors	5,979
Total	6,130

Cooperative Work Experience 1986-87

No. students	Hours	Wages
Regular School Year		
21,517	15,202,109	$57,700,624
Average Wage Per Hour $3.80		
Previous Summer		
9,367	2,646,294	$9,921,217
Average Wage Per Hour $3.75		

Completer** Data 1985-86

Total Completers	39,829
Percent Employed full-time or part-time	63%
Percent continuing education full-time or part-time	27%
Percent in Military/Homemaker/ Unemployed	10%

Comparisons:

Percent of vocational education completers not employed, seeking full-time work	6%
Percent of all youth 16-19 statewide not employed, seeking full-time work	17.1%

**Completer courses are those in a program sequence that have at least one prerequisite and that provide job skills training.

60

Table 8

Program Area Course Offerings	1987-88	%
Trade and Industrial	98	41
Industrial Arts	30	13
Marketing	24	10
Business and Office	23	10
Agriculture	19	8
Consumer and Homemaking	16	7
Occupational Home Economics	11	5
Special Programs	7	3
Basic & Vocational Skills	4	2
Health Occupations	3	1
Vocational Development	2	0
Principles of Technology	2	0
	239	100

Special Populations Served in Vocational Programs Grades 9-12 1987-88

	TOTAL	%	LEP*	%	Disad-vantaged	%	Handi-capped	%
Agriculture	8,470	10	37	7	6,188	9	2,245	13
Business & Office Education	24,492	28	179	32	22,015	32	2,298	13
Consumer Home Economics	17,558	20	73	13	14,015	20	3,470	20
Health	2,056	2	9	2	1,701	2	346	2
Industrial Arts	5,588	6	21	4	4,011	6	1,556	9
Marketing	3,614	4	13	2	3,065	4	536	3
Occupational Home Economics	3,255	4	24	4	2,692	4	539	3
Vocational Development	2,568	3	47	8	1,744	3	777	5
Special Programs	3,503	4	4	1	2,167	3	1,332	8
Trade & Industrial Education	16,501	19	152	27	12,174	17	4,175	24
Principles of Technology	179	0	0	0	170	0	9	0
	87,784	100	559	100	69,942	100	17,283	100

Table 9

PART I

B. COMPOSITION OF VOCATIONAL EDUCATION ADVISORY COUNCIL
(Indicate Number)*

Clientele Group Represented	Race and Sex								
	White		Black		Amer. Indian		Other		
	M	F	M	F	M	F	M	F	Total
Business									
Industry									
Labor									
Trade									
Technical									
Office									
Health									
Home Economics									
Agricultural									
Marketing									
Education									
Industry Hunters									
Related Agencies (Specify such as representatives of									
Exceptional Children, Voc. Rehab., Apprenticeship,									
etc.)									
JTPA									
Parents									
Others (Specify)									
Total									

*If an individual fits more than one category, indicate that person's duplication in parentheses in all but one block.

Table 10

PART I

C. LOCAL ADVISORY COUNCIL ACTIVITIES AND LOCAL COORDINATION WITH JTPA

Activities	Number of Times This Fiscal Year This Activity Occurred			
	JTPA*	Council	Individual	Sub Group
Orientation Meeting(s)				
Review Occupational/Community Surveys (Job Needs) (Skills Required)				
Advise on Course Content (Relevance of Programs)				
Review of Student Placement Data				
Equipment and Facility Planning Recommendations				
Identification of Potential Vocational Teachers				
Identify Community Resources to Support Vocational Education Programs				
Review Evaluation Data				
Advise on Local Plan Development (a) Three-Year Plan				
(b) Annual Application				
Conduct Program Visitations in The LEA				
Conduct Program Visitations Outside the LEA				
Other (Specify)				

*Check involvement with JTPA in this column. Based on priorities in the Carl Perkins Vocational Education Act, it is recommended that a copy of the completed plan be sent to the Private Industry Council (PIC) in addition to appropriate JTPA involvement in the review of the draft plan as noted in the Assurances.

7. How Vocational Education Program Evaluation Contributed to Improving Programs

Thirty local school administrative units participated in the program and administrative review process. The process included teachers and business representatives assessing their programs using pertinent data and thirteen standards. Local vocational directors assessed the administration of vocational programs by using six standards and input from teachers. Program areas and administration identified their strengths, weaknesses, and needed improvements based upon available data and technical assistance from state staff. The LEAs developed a five-year plan showing priorities and funds required to make local improvements. The plan became part of the local plan application and state accreditation.

Over 184 reports were reviewed by state. Typical improvements identified were: up-to-date equipment purchases, increased personnel development, and increased involvement of business/industry personnel with local programs.

8. How the Local Plan Process Contributed to Improving Programs

The local plan process by secondary eligible recipients provides a variety of checks and balances for improving programs. It consists of three parts; Part I. Statement of Assurances, Part II. Vocational Improvement Plan, Part III. Annual Application/Abstracts.

The Part I Statement of Assurances contains federal and state legal/policy requirements germane to administration, planning, fiscal, curriculum/instruction, personnel development, and program improvement. This component requires the signature of the local vocational director, superintendent, and chairman of the local board of education.

The Part II Vocational Improvement Plan contains the analysis of priorities improvement needed by course/program area with the specific strategies to be implemented for accomplishing same. Time lines are established for each improvement component.

The Part III Annual Application/Abstract requires official signatures for continuous complinace with the assurances contained in Part I. This part contains documentation of instructional positions by program area with course listings, fund sources, enrollment, time blocks, length of course, and number of sections available to participants. Data base management is reflected in LEA totals by program area, special populations and categories of service provided. Documentation of JTPA coordination is provided with an analysis of accomplishments and activities. Abstracts provide documentation for special programs, program improvement, and certification of budget request.

9. How Technical Committees Contribute to Improving Programs

The State Board of Education has approved operating procedures for secondary technical committees. A five-year curriculum plan has also been developed to identify when technical committees will be used to help develop inventory of tasks. Two technical committees were identified for the 1987-88 school year, one for masonry and another for business data processing. These committees helped develop up-to-date curriculum for local program use.

10. How Vocational Student Organizations Contributed to Improving Programs

Over 78,979 students in 2,104 chapters were active members in one of the eight vocational student organizations. In addition to local activities designed to improve students' citizenship, leadership, employment skills, and job skills, regional and state activities were offered. Regional and state competitive events were held to assess competencies developed in vocational courses and to recognize outstanding individual and group achievement. About 2,422 business/industry representatives assisted with these events. They also donated supplies and materials.

Attendance at VSO regional and state workshops was:

Regional leadership workshops	20,342
Regional competitive event conference	21,157
State leadership conference	12,310

Through dues and contributions, vocational student organizations gave 36 educational scholarships totaling $46,636.

11. How Production Work Activities Contributed to Improving Programs

Production work activities in all skill development programs provide a realistic evaluation of student competency achievement and proficiency. The setting/environment is indicative of actual working conditions students will encounter in the business and industrial community after graduation and upon employment in the public or private sector. This training contributes to state-of-the-art skill development and program improvement.

The following program areas reflect the scope and magnitude of the production work concept:

AGRICULTURAL PRODUCTION - Producing crops and animals and conducting experiments within the school/land laboratory evaluates and reflects competency attainment.

AGRICULTURAL MACHINERY/EQUIPMENT/STRUCTURES - Assembling farm equipment for equipment dealers; repairing tractors and equipment

for farmers; laying out and constructing agricultural buildings provide competency evaluation and instant feedback for program improvement.

ORNAMENTAL HORTICULTURE - Producing and distributing greenhouse plants; designing and implementing landscape plans, landscaping and planting trees and shrubbery for the houses built by the construction trades students provide excellent learning experiences.

FORESTRY - Producing, managing, and marketing forest products to ensure a comprehensive understanding and mastery of the industry; learning to operate and maintain forestry equipment enable students to demonstrate their knowledge and skills.

BUSINESS AND OFFICE EDUCATION - Basic skills/competencies are developed through various components of the BOE program. Activities on business machines such as electronic calculators, electronic typewriters, microcomputers, and word processors contribute to the job readiness skills of students. Those enrolled in Administrative Support Occupations II, Computerized Accounting Occupations II, and Business Data Processing Occupations II may participate in the cooperative component of these courses.

Through cooperative methodology students utilize and further develop skills/competencies in part-time office positions in the business community.

ADMINISTRATIVE SUPPORT OCCUPATIONS II - Students develop basic skills/competencies in a variety of office positions such as: general office clerk, records clerk, clerk-receptionist, secretary, typist, word processor in a real life employment setting. These experiences contribute to maintaining up-to-date curricula in basic skills requirements.

COMPUTERIZED ACCOUNTING OCCUPATIONS II - Students continue to develop skills/competencies through employment as accounts payable/receivable clerks, bookkeepers, inventory clerks, payroll clerks, billing clerks, tax preparer trainees, and related computerized occupations.

DATA PROCESSING OCCUPATIONS II - Students build on skills/competencies in business by performing computer operator, data control clerk, data entry operator, and data processing librarian task on state-of-the-art equipment in the employment environment which provides instant feedback for program improvement.

Feedback from employers through the students and teacher/coordinators provide information on needed training/skills resulting in modifications/improvements to course competencies and instructional guides.

HEALTH OCCUPATIONS - Students in advanced health occupations are provided clinical experiences in local hospitals, doctors offices and other medical specialty facilities. These experiences validate competency attainment in a real life setting under the

supervision of medically trained personnel. Program improvement is assured through teacher coordination with the medical community and the use of state-of-the-art equipment.

HOME ECONOMICS

Child care - Students utilize their competencies by supervising and caring for preschool children in day care centers.

Clothing - Students utilize their competencies to construct custom clothing draperies, bedspreads, and home accessories. They also do clothing and home apparel alterations.

Food - Students plan and prepare a variety of foods for value, the retailing and catering of meals and receptions.

Home Interior - Students utilize competencies to design the interior decorations of homes built by the construction trades students.

Human Services - Students utilize their competencies to provide specialized services based on the needs of the individual in the appropriate environment.

MARKETING EDUCATION

Cooperative Education - Students in all marketing education classes have the opportunity to develop/utilize their sales/marketing competencies in local business and industry part-time employment. This ensures state-of-the-art training commensurate with the employers needs. This real life setting provides instant feedback for improving programs and modifying curricula based on demand. Students also operate the local school supply store which requires computerized inventory management, distribution, sales and human relations technique development. Marketing education students promote and sell the houses built by the construction trades students.

TRADE AND INDUSTRIAL EDUCATION

Industrial Cooperative Training - Students receive realistic training in the industrial environment relating to their career objective. Competency development is related to job expectations with training being done on current equipment according to industrial practices.

Aerospace - Students construct a small private class airplane which is tested and sold at public auction.

Auto Technology - Students repair automobiles, trucks, vans, and buses. They schedule, prepare work orders, procure parts, and process payment as a part of the comprehensive training.

Diesel Mechanics - Same as auto technology.

Auto Body Repair - Students repair automobiles, trucks, vans, and buses by using the latest materials appropriate for the type of repair required.

Masonry - Students build houses and other masonry construction projects on and off campus using modern materials and up-to-date techniques as required by the industry and building codes.

Furniture/Cabinetmaking - Students utilize their competencies to construct individual and mass produced projects from an array of types of woods. Students calculate materials and cost for these projects.

Carpentry - Students perform their carpentry skills in building construction with other building trades students. The completed houses are sold at public auction with the revenue generated returned to the vocational education budget.

Drafting - Students develop the design and produce prints for the building construction and other projects completed by the construction trades students. Computer-aided-drafting (CAD) systems have been implemented in the majority (75%) of the drafting programs to ensure state-of-the-art instruction/training commensurate with industrial employment opportunities.

Plumbing - Students design, measure, purchase, and install the plumbing in building construction under the inspection for code compliance of a licensed plumber.

Electrical Trades - Students wire buildings which may be constructed by the building trades students. Building construction or maintenance projects are inspected for code compliance by the building code inspection office.

Cosmetology - Advanced students shampoo, prepare, and style hair according to customer preference. The latest trends and styles reflect up-to-date training in a variety of hair styles indicative of community mores.

Marine Occupations - Students learn fishing and shrimping skills, boat operations, and navigation skills in real life settings. The catch is sold to local seafood processing plants and the money returned to the local vocational education budget.

Graphics & Industrial Communications - Students utilize competencies to produce forms, tables, charts, graphs, and information for customers such as report cards, permanent student record folders, newspapers, sporting event programs, certificates and other printed materials to specifications.

Tailoring - Students utilize their competencies to construct garments to specifications which are stylish and in good taste.

Electronics - Students install, maintain, and repair electrical and electronic equipment ranging from household appliances and home entertainment systems to complex computer equipment.

Industrial Maintenance - Students install, maintain, and repair machines and mechanical equipment and systems. Typical duties could include replacing faulty electrical switches, repairing air-conditioning motors, inspection of belts and fluid levels and maintaining maintenance records.

Metals Manufacturing Technology - Students read blueprints and job specifications, measure, layout, perform machining operations, finish and assemble the finished product.

Textiles - Students utilize their competencies in one of the three major textile manufacturing categories: yarn, fabric, and the dyeing and finishing of fabric.

Welding - Students read blueprints and job specifications, measure, layout, and perform various welding operations, such as gas and/or electric.

Technical Drafting - As of December 1, 1987, there are approximately 144 T&I Drafting Programs (secondary) in North Carolina. Of these 144 Technical Drafting Programs, 114 or approximately 80 percent have at least one (1) CAD Station. The software configurations are varied with approximately nine (9) different CAD programs now in use. Two (2) software make up approximately 86 percent of the CAD utilized. They are VERSACAD (54%) and AutoCAD (32%). The remaining 14 percent of software in order of frequency is: CAD-Apple, MAC-Draft, Cascadet, Robo, CAD Key, Generic and Min-Draft.

12. How Cooperative Vocational Education Methodology Contributed to Improving Programs

During the regular school year 1987-88, 19,910 students were enrolled where the cooperative method of instruction was used; 8,321 students worked during the previous summer. These students worked 2,264,992 hours during the summer and 13,902,976 hours during the school year. They earned $18,723,903 in the summer and $54,606,001 during the school year.

The average hourly wage was $3.92. About 486 teachers, in agriculture, business and office, marketing, occupational home economics, and trade and industrial education coordinated the programs.

Cooperative vocational education continues to improve the business and industry partnership between the local school and community.

13. How State Fair Exhibits Contribute to Improving Programs

The Vocational Education State Fair exhibits are selected by regional chairpersons who serve on the State Fair Committee. The exhibits are model programs and represent each program area in vocational education (agriculture, home economics, health occupations, etc.). Each exhibit exemplifies the most recent technology available in that particular program area, e.g. competencies, content, instructional techniques, and methods of transmitting instructional content through telecommunication equipment and electronic boards.

The exhibits are viewed by the general public, which includes teachers, administrators, students, parents, advisory committee members, business/industry representatives, and others who make recommendations for improvement of programs at the local level. During 1987-88, approximately 366,000 people viewed the exhibits.

Over the past several years, the Vocational Education State Fair Exhibit received either the Governor's or Commissioner's Award of Excellence which is the highest honor given for an educational exhibit.

14. How the State Vocational Education Planning and Coordination Committee (SVEPCC) Contributed to Improving Programs

Active participation from the following groups and agencies provided information and activities that continued to improve the coordinated state-level planning for vocational and vocational related education and training:

Department of Community Colleges, Continuing Education; Department of Corrections, Adult Correction; Department of Administration, Council on the Status of Women; Department of Commerce, State Occupational Information Coordinating Committee; Department of Human Resources, Division of Youth Services; State Advisory Council on Vocational Education; Department of Public Instruction, Support Services; Department of Commerce, Economic Development; Department of Public Instruction, Division of Exceptional Children; Department of Human Resources, Division of Vocational Rehabilitation; Department of Natural Resources and Community Development, Division of Employment and Training; Department of Labor, Division of Education and Training; Department of Public Instruction, Division of Vocational Education; and the Governor's Education Advisor.

In addition to the continuous dialogue between agencies and individuals the committee meetings produced admirable progress in coordination and cooperation.

The State Department of Community Colleges provided information on administrative, fiscal, programs, projects and special events germane to the purpose of the committee functions and priority

issues. Active representation contributed to the immediate implementation of ideas and processes designed to improve services and activities with other agencies and appropriate clientele.

The State Department of Corrections provided representation on adult corrections and youth services. The statistical data and comprehensive insight into causal relationships that impact on rehabilitation of inmates contributed to an improved understanding and awareness of vocational education/training importance to youth and adults. A variety of approaches to implementing projects that provide counseling services and vocational training for inmates continue to improve due to legislative funding, collaborative efforts with the Department of Community Colleges, Department of Natural Resources and Community Development, Division of Employment and Training (JTPA), Department of Human Resources, Division of Vocational Rehabilitation, Department of Administration, and the Council on the Status of Women.

The State Department of Administration, Council on the Status of Women provided valuable information on services and activities designed to improve and recognize the contribution women provide in our State and nation. The annual conference included presentations by sex equity and future forecasting vocational education staff. The Council has developed a variety of programs to serve battered women and address the many diverse problems women face in the home and workplace. The State and regional councils are coordinating activities and services with other state and local agencies to maximize efficient assistance to women based on the nature of individual needs.

The State Department of Commerce, Division of Economic Development provided administrative, fiscal and project information on the multi-faceted activities related to vocational education/training and the positive impact it has on industrial and economic development. Strategic planning and coordination with education and training programs contributes to the economic growth and quality of life in the state. The Economic Development staff works closely with other agencies with similar divisions and staff to complement a statewide coordinated effort.

The State Occupational Information Coordinating Committee in the Department of Commerce provided extensive information on occupational information and career development. The distribution of tabloids to secondary, postsecondary and other agencies and groups involved in education and training contributed to individual awareness of employment opportunities, wages, job requirements and appropriate job preparation information. The SOICC is evaluating the many different ways data is assembled and comparable user needs so they may continue to improve services to clientele. A variety of strategies are used to accomplish the committee goals and objectives. The SOICC is evaluating OIS, career information, career tabloid, career computer software and other systems related to information and user needs.

Coordination with Industry Education Coordinators in vocational education through regional workshops is generating appropriate information for users.

The State Advisory Council on Vocational Education has shared a variety of studies and information on historical prospectives and trends. Many recommendations and ideas relevant to improving vocational education for participants in training as well as business, industry and agricultural recipients of our product has stimulated action designed to improve the quantity and quality of vocational education programs. Items of interest related to historical perspective, planning, articulation between agencies, governance, teacher supply and demand, curriculum, certification standards, testing, economic development, program standards, marketing vocational education, literacy, drop-out prevention, scholarship/fellowship loans, guidance, job placement, research, personnel development, data reliability, industrial development, evaluation, funding, equipment, crime prevention, special populations needs, labor organizations, legislative activities, advisory committees, foundations, technology and recommendations on how to achieve the desired results.

The Department of Public Instruction, Division of Exceptional Children has developed coordination meetings at the local level between directors of exceptional childrens' programs and directors of vocational education. Coordination and cooperation has contributed to improving services for disadvantaged, handicapped, and children with exceptionalities while avoiding duplication of effort in programs, services and support activities. The coordinated relationship at the state and local level has a positive impact on student's individual education plans and promotes the modification of instruction and program operations to meet the needs of these special students. The sharing of ideas and information contributes to achieving the purpose and function of the committee. Legislative support for planning and implementing a variety of related services for children with exceptionalities is forthcoming. Workshops on "transition from school to adult life" and teachers visiting work settings to perform work activities has improved concepts and activities for services provided this special clientele.

The State Department of Human Resources, Division of Vocational Rehabilitation continues to provide valuable information, service and expertise because of their respected tradition and extensive record of service for designated special populations. The identification of LEAs where vocational rehabilitation cooperative school programs exist were provided all agencies with appropriate information on the scope of services available to secondary education clientele. Cooperative agreements with the Department of Corrections and Department of Mental Health facilitates providing appropriate services for qualified individuals. Approximately 31 vocational rehabilitation offices

throughout the state coordinate these services. They receive approximately 27,000 referrals each year with approximately 15,000 of those being eligible for services based on the criteria required for the agency. A variety of concepts are utilized to deliver services to qualified individuals.

15. How Coordination with JTPA Contributed to Improving Programs

The coordination between vocational education and JTPA at the local school level during the current 1987-88 year has improved resulting in more effective programs and services for our disadvantaged youth. Also, at the local level, coordination between vocational education administrators and the Private Industry Councils has increased understanding of school programs.

Staff Development activities for LEA staff operating JTPA programs have been coordinated with SEA Vocational Education, JTPA and Dropout Prevention staff. Joint activities involved the development of an action plan, educating inter- and intra-agencies about JTPA, dissemination of the Governor's Coordination Criteria, and Executive Order #54, review of Request for Proposals, and sponsoring of workshops. In addition, the director of the Division of Support Programs, which administers JTPA 8% programs, serves on the VEPCC and is conscious of the need to plan and coordinate the functions of vocational education and JTPA.

JTPA projects operated during PY1987 were the Extended School Day, Pre-employment Skills Training, School-to-Work Transition Programs, Assessment/Testing, and Remediation Programs. Each of the projects has vocational components. Curriculum emphasizes pre-employment skills training which includes assessment, testing, and counseling; occupational career and vocational exploration; job search assistance; job seeking and keeping skills; remedial education; and labor market information. Referrals are made to vocational counselors and courses as appropriate. Many JTPA programs utilize the pre-employment skills competencies developed by vocational education. Job development and placement continues to be an integral component of all programs.

During the 1987-88 school year approximately 1,400 JTPA eligible students, ages 14-21, were served.

The Regional Services Section of the division initiated meetings by SDA regions with local vocational directors and JTPA personnel which was Phase III of the coordination efforts. The objectives of these meetings were: 1) follow through on the activities of Phases I and II of the coordination efforts of JTPA and local school systems, 2) provide a forum to assist in ensuring that vocational education and JTPA funds are used efficiently and effectively, 3) discuss strategies to avoid duplication of services provided to targeted school age populations. In most instances follow-up meetings were scheduled to begin specific plans for the next planning cycle. Concern was expressed about the Kerr-Tar SDA lack of participation in the Phase II effort.

The division furnished the chair of each Private Industry Council a listing of programs, levels, projected enrollment, and projected completers for the two-year period prescribed by the Carl D. Perkins Vocational Education Act.

16. How Community-Based Organizations Contributed to Improving Programs

Local Education Agencies, Community College Institutions, and Community-Based Organizations (CBOs) were given the opportunity to apply for special grants to develop programs/services for dropouts, potential dropouts, disadvantaged and handicapped youth age 16-21. Six (6) programs were funded for the 1987-88 fiscal year. All six of the 1987-88 programs were in cooperation with post-secondary institutions. Outreach, counseling, assessment, prevocational, career intern, transitional and placement services were emphasized in these programs. Community-Based Organizations worked with various educational systems, organizations and agencies to encourage and assist special needs youth to increase their opportunities through further education and/or job training.

17. How Office of Civil Rights Reviews Contributed to Improving Programs

The procedure used for selecting local educational agencies (LEAs) to receive both on-site and desk reviews is based on potential problems of student enrollments in vocational education programs. Race and sex are used as a criteria to identify these areas.

A ranking procedure is employed on potential Civil Rights problems of those school units who may experience non-compliance issues of a disproportionate enrollment of students in vocational programs. The LEAs identified in the highest five percent (5%) of the ranking receive on-site reviews. Those in the twenty percent (20%) ranking receive desk reviews. This process is conducted on a five year cycle until all LEAs are reviewed.

Technical assistance and monitoring activities are provided to LEAs on a per request basis or through the ranking order selection process. Workshops are conducted at the regional level and during the Vocational Summer Conference. Emphasis is placed upon areas to break down the stereotypical enrollment patterns and make additional information available to the units for students on opportunities in the non-traditional employment areas. This office provides training to staff, vocational directors, retirees and other school personnel to assist with monitoring activities of identified LEAs for compliance of Civil Rights issues.

These activities have contributed to improving programs through increased awareness of Civil Rights issues in vocational education and provide an understanding of constructive ways to eliminate patterns presented toward stereotypical enrollment.

18. How Sex Equity Activities Contributed to Improving Programs

The counseling/outreach activities provided teachers, students, parents and business/industry with a better understanding of the limitations of gender role stereotyping through inservice workshops, dissemination of information and update of counseling resource materials. The career exploration activities provided hands-on exploration of nontraditional vocational fields emphasizing technological advancements. Teen parent programs were developed to address the specific educational and counseling needs of young parents with emphasis on vocational exploration and decision making skills.

These activities have contributed to improving programs through increased awareness of equity issues in vocational education and an understanding of constructive ways to deal with barriers presented by gender stereotyping.

III. Consumer and Homemaking Accomplishments

A. Number of students served. (see Table 1)

B. Achievements in programs and support services in depressed areas.

The total Concentration of Low Income Families (CLIF), points of 42 or more are classified as being in the economically depressed category. The data is based upon the current Department of Commerce 1980 Census Study for the Low Income Families. See Table 11.

Economically Depressed Areas
(by Local Education Agency)

Table 11

650 New Hanover
770 Richmond
990 Yadkin
440 Haywood
150 Camden
040 Anson
390 Granville
730 Person
700 Pasquotank
950 Watauga
610 Mitchell
560 Macon
060 Avery
430 Harnett
960 Wayne
962 Goldsboro
980 Wilson County
260 Cumberland
500 Jackson
670 Onslow
510 Johnston
830 Scotland
250 Craven/New Bern
270 Currituck
640 Nash
641 Rocky Mount
540 Lenoir County
541 Kinston
330 Edgecombe
331 Tarboro
030 Alleghany
350 Franklin County
351 Franklinton
710 Pender
170 Caswell
370 Gates
100 Brunswick
070 Beaufort
071 Washington County
740 Pitt
690 Pamlico
820 Sampson
821 Clinton
380 Graham
910 Vance
520 Jones
470 Hoke
940 Washington
200 Cherokee
400 Greene
995 Yancey
580 Martin
220 Clay
050 Ashe
210 Chowan
460 Hertford
310 Duplin
890 Tyrrell
720 Perquimans
780 Robeson
781 Fairmont
782 Lumberton
784 Red Springs
785 Saint Pauls
090 Bladen
240 Columbus
241 Whiteville
570 Madison
660 Northampton
080 Bertie
870 Swain
480 Hyde
930 Warren
420 Halifax
421 Roanoke Rapids
422 Weldon

In 1987-88, 76 of the 140 school systems were in economically depressed areas. With this large percentage of students in depressed areas, attention was focused on basic living skills. Curriculum guides were developed and distributed in the subject of parenting and child development, interior design and housing, clothing and textiles, and foods and nutrition. The guides include age appropriate and contemporary activities to motivate the students to develop the competencies.

Teachers in the depressed areas receive technical assistance from State Home Economics Education Consultants, Regional Coordinators, and Vocational Directors. In addition, each school system has a Home Economics teacher representative that serves on a Regional Leadership Council that meets three times a year with a State Staff Consultant to give input for statewide planning and receive information on statewide directions. This representative reports back to the other home economics teachers in the school system.

In planning FHA/HERO activities, attention is given to making all programs and project's available to all students. There is student and teacher representation from the depressed areas at the Leadership workshops.

C. Achievements in programs and support services in non-depressed areas.

The total Concentration of Low Income Families (CLIF), points of 41 or less are classified as being in the non-economically depressed category. The data is based upon the current Department of Commerce 1980 Census Study for Low Income Families. See Table 12.

Non-Economically Depressed Areas
(by Local Education Agency)

Table 12

180 Catawba	292 Thomasville	110 Buncombe
181 Hickory	360 Gaston	111 Asheville
182 Newton	680 Orange	790 Rockingham
190 Chatham	681 Chapel Hill	791 Eden
760 Randolph	900 Union	792 Western Rockingham
761 Asheboro	901 Monroe	793 Reidsville
020 Alexander	410 Guilford	750 Polk
920 Wake	411 Greensboro	751 Tryon
130 Cabarrus	412 High Point	230 Cleveland
132 Kannapolis	600 Mecklenburg	231 Kings Mountain
500 Lincoln	340 Forsyth	232 Shelby
800 Rowan	840 Stanly	530 Lee
801 Salisbury	841 Albemarle	850 Stokes
010 Alamance	280 Dare	810 Rutherford
011 Burlington	450 Henderson	630 Moore
120 Burke	451 Hendersonville	860 Surry
490 Iredell	590 McDowell	861 Elkin
491 Mooresville	300 Davie	862 Mount Airy
492 Statesville	320 Durham County	620 Montgomery
140 Caldwell	321 Durham City	160 Carteret
290 Davidson	880 Transylvania	970 Wilkes
291 Lexington		

In 1987-88, we served a total of 64 of the 140 school systems in non-depressed areas. Attention was focused on directing a Program of Studies, Revised 1987 to be implemented in 1988-89. All course competencies and curriculum will change in the 1988-89 school year. Teachers were inserviced on getting materials in order to make changes.

Schools received technical assistance primarily through Regional Leadership Council Meetings, FHA/HERO Proficiency Events, Program Reviews, and Curriculum Workshops. The State Home Economics Staff, Regional Coordinators, and Vocational Directors provided this technical assistance for home economics teachers. A Summer Vocational Workshop, drawing 600+ teachers, was held for four days on the new directions in Home Economics and on resources for teaching the new competencies.

The student organization FHA/HERO held a Leadership Conference in all eight (8) regions, as well as a state meeting. Twenty-four Proficiency Events were held in all eight (8) regions, with student winners competing at a state event. Two hundred (200) students participated in the State Proficiency Events. Fifty (50) students and advisers participated in the National FHA/HERO Leadership Meeting.

D. Achievements in State leadership.

The State Home Economics staff completed four curriculum guides to include parenting and child development, clothing and textiles, interior design and housing, and foods and nutrition. Test item banks were completed for foods and nutrition and interior design and housing. These were distributed to all home economics teachers and vocational directors. The competencies and objectives for all courses to be offered 1988-1993 were written or revised. This was published as the Teacher Handbook and distributed to all Home Economics teachers, vocational directors, superintendents and principals.

In the Regions, the staff directed two Regional Leadership Council meetings in all eight regions. One teacher from the 140 school systems in the state had the opportunity to attend. The staff supervised eight FHA/HERO Fall Leadership Workshops with 3,181 students and 512 Advisers and Guests attending. They also supervised eight FHA/HERO Regional Proficiency Events with 1,305 students competing in 24 events.

In the State, the staff planned and directed the following Workships: Commercial Foods for 30 teachers, New and Returning Teachers for 35 teachers, and Child Care Services for 13 teachers the staff planned and directed a Summer Workshop for 606 teachers. Almost 2/3 of the teachers in the State attended this workshop. In addition, the staff planned and directed the FHA/HERO State Leadership Workshops for 1,560 students and 455 advisers and guests. This was a fifty percent increase over last year.

E. Exemplary programs developed.

Home Economics Education directed three exemplary projects in 1987-88. One project was Child Care Services Program Infants and Toddlers. This grant was to encourage Child Care Services programs to expand the training of students to include infants and toddlers. The second project was Entrepreneurship in Occupatinal Home Economics. The purpose of the grant was to train Occupational Home Economics Level II teachers to teach entrepreneurship in the classroom. The third project was Software for Home Economics courses. The grant was to identify a list of computer programs for specific new courses in the Program of Studies, Revised 1987.

IV. Community Based Organization (CBO)

A. Number of students served by CBOs. (See Table 1)

B. Names and addresses of CBOs participating with eligible recipients.

1.
Constance Haire
Webster Enterprises, Inc.
Post Office Box 220
Webster, NC 28788

Ruth Carpenter
Southwestern Tech. College
275 Webster Road
Sylva, NC 28779

2.
Leon Mann, Jr.
Carteret Comm. Action, Inc.
P. O. Drawer 90
Beaufort, NC 28516

Dr. Donald Bryant
Carteret Tech. College
3505 Arendell Street
Morehead City, NC 28557

3.
Ruth L. Revels
Guilford Native American, Association
400 Prescott Street
Greensboro, NC 27403

Carol O. Stearns
Guilford Tech. College
Post Office Box 309
Jamestown, NC 27282

4.
Merland Wright
Rocky Mount Opportunities Industrialization Center
402 Virginia Avenue
Rocky Mount, NC 27801

Charles A. Bucher
Nash Tech. College
Post Office Box 7488
Rocky Mount, NC 27804-7488

5.
Christopher Kiricoples
Vocational Trades of Alamance
1212 Turrentine Street
Burlington, NC 27215

Patty Herbin
Alamance Tech. College
Post Office Box 623
Haw River, NC 27258

6.
Howard Jones
Wilson Opportunities Industrialization Center
801 N. Reid Street
Wilson, NC 27894-0547

Dr. Rufus Swain
Wilson Technical College
902 Herring Avenue
Wilson, NC 27893

Results and Accomplishments of Expending
Title II - Part A Federal Funds
VOCATIONAL EDUCATION OPPORTUNITIES
POSTSECONDARY

I. Vocational Education Opportunities Accomplishments

I. A. Handicapped

1. Number of handicapped receiving additional services in mainstream programs. (See Table 1)

2. Number of handicapped served in separate programs. (See Table 1)

3. Accomplishments in coordination with vocational rehabilitation and other programs.

The 58 community and technical colleges of North Carolina are committed to serving the vocational education needs of the adult handicapped population of the state. Particular emphasis has been placed on the coordination of vocational programs and services with vocational rehabilitation and other related programs. Some of the community colleges in North Carolina actually have vocational rehabilitation facilities on campus and many others are located nearby.

The first step in providing these services is to identify the target population. This identification is accomplished by:

a. Voluntary self-identification through applications, registrations, and other reporting forms.
b. In-house assessment through testing, counseling, and instructor feedback.
c. Referrals from Vocational Rehabilitation, Division of Health Services, JTPA, and high schools.
d. Cooperative agreements with Vocational Rehabilitation, Departments of Social Services, community action agencies, and mental health clinics.

The second step in providing the services to the handicapped population is assessment. Several methods, either separately or in combination are used to assess the handicapped population. Some of these methods are:

a. Standardized instruments such as the Meyers-Briggs type indicator, etc.
b. Interviews, observations, and information passed from referral agencies.

c. Computer software to diagnose students' learning problems.

d. Licensed psychological testing.

Once handicapped students have been identified and their needs assessed, they are served by a variety of activities. These include but are not limited to:

a. Supplemental specialized counseling.
b. Development of placement tests in Braille.
c. Tutorial, interpreter, notetaker, signer, reader, and typing services.
d. Referral services and pamphlets that list services available to the handicapped.
e. Equipment such as large print typewriters, "phonic ears" and "minicom" phone adapters for the hearing impaired, and tape recorders.
f. Special parking and elevator keys where required.

4. Description of successful activities that served handicapped.

Promoting awareness of the needs of the handicapped individual has increased the potential for successful activities to serve the handicapped student. This awareness has been expanded through active planning committees that have addressed the provision of programs or services for the disabled. One such committee is currently working on the development of a bill, to be presented to the state legislature, which would provide for additional funds to be used by postsecondary institutions in providing direct services to their disabled students.

One of the most successful activities for the handicapped on many North Carolina community college campuses is individual counseling. The handicapped students meet individually with a counseling specialist for the handicapped and also with the Coordinator of Academic Support. Through these interviews, interests and needs are identified. The student is referred to either personal, employment, or career counseling. Their abilities are determined by entrance testing, conference with a counselor, or through cooperative efforts with Vocational Rehabilitation, Social Services, Services for the Blind, and other human service agencies.

On many campuses, one or more counselors are designated as a counseling specialist for handicapped students. The counselor works on a one-to-one basis with students to determine what special equipment or services are needed. The Coordinator of Academic Support provides the individual student necessary tutors, notetakers, or interpreters. The counselor initiates conferences with each instructor and advisor, checks on student

progress at mid-quarter, and the end of the quarter, and visits each instructor at least twice each quarter.

Supplemental services and activities are provided on an "as needed" basis. Not all students who are handicapped need or even want special consideration and services. Most handicapped students are mainstreamed into regular classes. The task of the counselor, instructor and advisor is to find those who need special help and to provide it. Students with alcohol and drug related problems are referred to an appropriate student assistance program.

5. Exemplary programs developed.

Alamance Community College, through its contractual agreement with Vocational Trades of Alamance, has used funds from the Carl D. Perkins Vocational Education Act to provide a variety of vocational training for county residents with handicaps and/or disabilities. Adults participating in these opportunities possess a wide range of disabilities, from severe mental retardation, borderline intellectual functions, chronic mental illness, and/or physical impairments. Classes have included:

Introduction to Small Business
Food Service
Building/Grounds Maintenance
Introduction to Bench Assembly Skills (4 classes per quarter)
Diversified Operations (10 classes per quarter)
Shipping and Receiving
Job Related Education

The contractual agreement between Alamance Community College and Vocational Trades of Alamance promotes cooperative inter-agency relationships in that several of the adult learners are involved with other agencies such as Vocational Rehabilitation and Job Co-op. This contractual agreement has resulted in efficient use of existing facilities and staff to serve the vocational training needs of persons with disabilities. The Carl D. Perkins Vocational Education Act has greatly enhanced the postsecondary educational opportunities for the county residents with handicaps or disabilities.

Through the training/services provided, handicapped adults have improved their vocational skills, abilities and attitudes. Training has been flexible, allowing the adult learners to progress at their own pace which may vary due to the degrees of disability. Multiple teaching techniques are used, often simultaneously, in order to maximize the learner's success.

Training is provided in a variety of settings, such as food service, shipping/receiving, and buildings/grounds maintenance.

This program received the Governor's Award for Job Training in December 1987, and was nominated for the Presidential Award for exemplary service in the area of Job Training for Outstanding Coordination Efforts.

I. B. Disadvantaged - (Excluding LEP)

1. Number of disadvantaged individuals receiving additional services in mainstream programs. (See Table 1)

2. Number of disadvantaged individuals served in separate programs. (See Table 1)

3. Description of successful activities that served disadvantaged.

a. Outreach - Identification - Assessment

A sizeable portion of the individuals who come to community colleges in North Carolina are economically disadvantaged. Those who are most in need are identified through a variety of referral systems. Many are identified through optional student information forms provided at registration. Others are referred through social services agencies, the Employment Security Commission, JTPA, community action agencies, and similar groups. Some students are referred for special services by the colleges' financial aid offices. The standards for eligibility are established by the referral agency, Pell Grant application, or by comparing family income to the current OMB poverty guidelines.

Assessment is a vital step in the overall vocational education program, especially for the disadvantaged population. Services used to assess interests, abilities, and special needs include: preadmission conferences, career and academic guidance, personal counseling, financial assistance counseling, and academic testing. Instruments used for assessment of academic and other needs include admissions placement tests, the Career Assessment Inventory, and the Meyers-Briggs type indicator. Students are often referred to service provider agencies which, when appropriate, conduct further assessment. For example, some students are referred to the Employment Security Commission for GATB testing.

b. Supplemental Services

Supplemental counseling, tutoring, and special remedial programs are provided by the colleges to the economically and educationally disadvantaged student to assure their success. Most colleges have well-developed learning resource centers and developmental studies programs. These programs have been emphasized as part of the North Carolina Community College System's commitment to an open door that enables the student to start from where he or she is and progress through a continuum of basic skills to skill training and productive employment.

Community College financial aid offices match needy students with a variety of scholarships and loans. Local sources fund some scholarships, and the state of North Carolina has created a scholarship fund which makes over 1,000 grants annually. Pell Grants, business/industry scholarships, JTPA, and other assistance are also made available to eligible students.

4. Achievements in serving the disadvantaged students in terms of improved access and services provided that contribute to success in the program.

A number of excellent models for providing services to disadvantaged students have been developed. Most colleges have counseling centers, and provide tutoring, referral to outside agencies, and administration of interest inventories as well as counseling. Tutorial lab and peer tutoring approaches have been successful in helping students with academic and other difficulties. One especially good model involves an "early referral system" for students experiencing academic and other difficulties. Instructors refer the students to counselors who discuss the problems with them and determine means of solving their problems.

One model involves a tracking system to monitor the attendance and progress of the disadvantaged students in an attempt to assure successful completion of their programs. Another unique and valuable service to assure the success of the disadvantaged vocational education student is the establishment of a "writing center" which provides assistance with specific composition problems.

Often economically disadvantaged students are unable to stay in college without employment. Some colleges arrange cooperative education plans. Others provide job placement services or help the students secure services through the Employment Security Commission. Several colleges have been able to provide funds for

transportation, child care, and other costs through foundation funds, linkages with JTPA, or special single parent/homemaker funds.

Linkages with JTPA and county Departments of Social Services are valuable aids in improving the access of the disadvantaged to programs. A number of local coordination efforts are being made. JTPA programs in the community college system are coordinated through a central office in the Department of Community Colleges. This office works closely with the Vocational Education Coordinator. Both work through an interagency coordinating committee to develop productive relationships with other groups.

I. B. Limited English Proficient (LEP)

1. Number of LEP individuals receiving additional services in mainstream programs. (See Table 1)

2. Number of LEP individuals served in separate programs. (See Table 1)

3. Description of successful activities that served LEP.

The majority of the adults receiving assistance under Vocational Education Act LEP provisions in North Carolina are concentrated in or around the large military bases that are located here in North Carolina. Vietnamese, Hispanics, and Koreans are the three most prevalent of the LEP populations, though other nationalities are represented.

Identification, outreach, and recruitment of those eligible for LEP assistance is accomplished by self-identification, peer referral, or recruiter/counselor referral. Several colleges use native language speakers to recruit and refer individuals for assistance. Others are identified during the regular registration process. Supplemental services which were provided for the LEP included:

a. English as a second language class.
b. Tutoring in native language.
c. Translations of technical texts into native language.

4. Achievements in serving the LEP students.

The North Carolina Community College System enrolled 3,605 LEP individuals during the 1987-88 fiscal year. The majority of these students were enrolled in English as a second language programs which, when successfully completed, enabled the student to succeed in vocational education. Special interpreters,

tutors, and remedial programs also contributed to improved access and success in vocational education programs for LEP individuals.

The heavy concentration of LEP individuals around the large military bases in North Carolina is due in part to the large number of military dependents of foreign nationalities. Another factor in that concentration is the fact that a large number of the foreign born spouses of military personnel sponsor other members of their families or friends to immigrate into the United States.

5. Exemplary programs developed.

Publication of the "North Carolina Driver's Handbook, Questions and Answers" is a unique and valuable extension of service to LEP students. This publication was published in Cambodian and distributed to other agencies who serve Cambodians. (Copy Attached).

I. C. Adults In Need of Training and Retraining.

1. Number of Adults enrolled in vocational education programs. (See Table I).

2. Types of retraining (quick-start) programs offered to adults.

The community college system has been very successful in retraining adult workers through many types of programs, and this success has been a major factor in North Carolina's economic growth. The existence of an accessible, low-cost, high quality system of community and technical colleges is a major drawing card for business and industry, and the state's program for attracting industry through customized training efforts is a model that has been studied and duplicated by other states.

Cooperative skills training programs provide for the assessment of needs for training and for customizing training programs for skilled and semi-skilled workers employed in industrial type occupations and the traditional trades. Emphasis is placed on training for machine metalworking occupations and industrial maintenance workers. Cooperative skills training classes are designed for specific groups of workers who need additional skills and technical knowledge and also for workers who need to update their skills because of technological changes. Cooperative skills training classes are jointly planned by the institution and the industry or industries to be served and are intended to provide for training that cannot be provided by other existing occupational programs.

As the state's traditional industries update their operations to take advantage of rapidly evolving technology, many of them turn to the North Carolina Community College System for help in training their workers in the skills the new technologies demand. Since 1981, more than 26,700 workers in 2,723 industries have participated in the Focused Industrial Training (FIT) program. FIT furnishes dedicated resources to the colleges to assess and address training needs in industry. FIT enlarges the colleges response capacity to offer customized, small enrollment classes in skills critical to a particular company. These classes, primarily directed toward veteran workers in critical occupations who need to renew their skills and technical knowledge, are planned jointly by the sponsoring college and the participating industry to assure training is focused on the reality of each job. Among the occupations principally targeted are maintenance mechanics, machinists, tool and die makers, electrical/electronics technicians, quality assurance technicians, and other jobs critical to an economy in technological transition.

3. Achievements in serving adults who need training or retraining.

North Carolina has one of the largest and most comprehensive postsecondary vocational education systems in the nation. The primary mission of the system has always been the delivery of technical and vocational programs and basic education to adults. With 58 colleges serving over 82,000 full-time equivalent enrollments in occupational programs each year, the North Carolina Community College System is a model for postsecondary vocational education.

A majority of the students in both curriculum and extension programs are adults who have been out of high school for several years. The average age of all students is 30, and a majority of students are working part- or full-time.

4. Coordination activities with the JTPA and the private sector.

The North Carolina Community College System has a history of coordination with the private sector. The majority of the members of the State Board of Community Colleges are from the private sector. Occupational curriculum programs are required to have advisory committees with private sector members. At the state level, a recent series of meetings drew together private sector leaders from across the state to discuss the future of each of twelve industries and the role of community college training in their futures. This information is being used in policy making and planning.

Businesses continue to donate usable equipment and support the system by helping to keep instructors up-to-date. For example, IBM offered updating sessions on electronics for instructors from colleges across the state, The Measurement Group offered workshops in instrumentation and other companies have offered workshops in a variety of subjects.

Coordination with JTPA is supported by a state-level technical assistance staff who help colleges establish and operate quality programs. JTPA funds are often used in conjunction with vocational education and other funds to support skills training for the disadvantaged through special classes or mainstreaming of eligible participants. JTPA dislocated worker funds have been combined with vocational education and other funds to offer programs developed for the workers of several major plants which have closed.

At the state level, the Vocational Education Coordinator and the JTPA Coordinator work together closely. The state level Interagency Coordinating Committee of the Job Training Coordinating Council is another mechanism for insuring that the programs are complementary.

The North Carolina Community College System continue to make great strides in its articulation efforts with the public secondary vocational education programs through the 2 plus 2 and "tech prep" models. Several of these articulated programs are now in place between the secondary and postsecondary systems in North Carolina.

I. D. Single Parents and Homemakers

1. Number of single parents and homemakers served at secondary level. (See Table 1)

2. Number of single parents and homemakers served at postsecondary/adult level. (See Table 1)

3. Achievements in providing services to both populations.

The increasing numbers of single parents and homemakers in the population, and the fact that they are often in need of skills training to enter or reenter the workforce, has led a number of colleges to target special advertising to this group. Extra efforts have also been made to establish referral mechanisms with agencies and community groups which serve these individuals. Colleges typically work with the county departments of social services, the county commissions on the status of women, and women's centers. Another important referral source is the colleges' own developmental studies programs which have been

placing more emphasis on a continuum of learning from basic literacy through skills training.

Most colleges use a voluntary self-identification referral form to identify students in this and other target groups. Through self-referral, instructor and counselor identification, and specific contacts with financial aid officers and department heads in programs enrolling a high percentage of female students, colleges establish a clearer picture of the number of students who meet the definition of single parent or homemaker.

The size of this population led a number of colleges to use single parent/homemaker funds for specialized recruitment, counseling, and support services to meet the needs of these students as a group, in addition to the individualized assessment and counseling services being offered. The provision of extra support services seems to be a key in insuring the success of these students who are often under significant stress.

Child care is identified as one of the most significant needs of this population. Funds are set aside for grants to colleges to develop innovative programs for offering child care to single parents and homemakers to facilitate their entry into or completion of training programs. Approximately 230 children of single parents were given care in these special programs. Child care is receiving increased attention at the state level as a problem preventing many people, especially single parents, from obtaining the training they need to be independent.

4. Special delivery methods used that are unique and/or effective.

Several recipients of single parent funds held specialized workshops to focus on the problems of single parents. Workshops frequently feature sessions on time and financial management, legal affairs, building support networks, and parenting skills. Other topics are offered on goal setting, decision-making, and assertiveness to enhance this population's survival skills. These workshops are often special services to parents whose children receive care through the colleges' child care grants.

The child care programs feature different delivery mechanisms depending on the needs and resources of the local communities. Several colleges entered into agreements with local private care providers to take children of qualified students. The college paid the cost or a portion of the cost depending on the ability of the student to pay. Others provided care on campus. Some were able to establish relationships with the county departments of social services for referral and to arrange for county funds to pay child care costs when funds were available. A substantial majority of the students involved in these programs asserted that

they would be unable to attend college without the assistance provided through the program.

5. Method of determining the greatest financial need and number served who met the criteria.

   Recipients have established relationships with JTPA and departments of social services. These already established processes for determining eligibility are also frequently used by colleges to determine financial need. Pell Grant applications and interviews with financial aid counselors are also used. Numbers served with significant financial needs are not now available, but research has shown that the majority of our students are from lower income groups, and we believe that most, if not all, are beset by significant financial need.

I. E. Students in Non-Traditional Programs (Sex Equity)

1. Number of students in non-traditional programs. (See Table I).

2. Achievements and services provided to reduce sex bias and sex stereotyping in vocational programs.

   The sex equity grant program served over 300 women in special non-traditional sex equity programs at nine colleges and over 1500 women in short-term career exploration workshops at six colleges. The latter provided an introduction to training options in a community service format. The special sex equity projects, on the other hand, provided funds to mainstream students into non-traditional curriculum areas with support services to increase chances of successful completion. Funds were provided for individualized counseling, books, transportation, and day care.

   Participant evaluations suggest that the sex equity program meets a heretofore unexpressed need of North Carolina women. The bulk of the participants have flocked to short courses, workshops, and seminars on career development and training. Favorable responses to these myriad programs are evident in the hundreds that show up sometimes for a single program to deal with issues and problems in their quest for self-realization.

   In the non-traditional curriculum program, success is evidenced by retention rates ranging from 75 percent to 85 percent. The students assert that the day care, transportation, and instructional materials provided by the grant make the difference between their attending or not. Further, a single coordinator for each program provides both an emotional and practical "center of gravity," thereby motivating students to do well in

non-traditional programs (participating colleges almost all report a 3.0 grade-point average for these women). Project coordinators also report that although women enrolled in non-traditional programs prior to the special projects, they had no "staying power" until the sex equity grants made possible the individualized counseling and support. Furthermore, tangible recognition of the program's value is evidenced by the award by two colleges of the "Most Outstanding Vocational Student Award" to non-traditional students in the sex equity program.

A serendipitous effect of the sex equity program was an invitation for the program's field coordinators to present their program at an international conference on education. Access and retention appear to be global problems, and the local sex equity coordinators in the program proposed that strategies tested under the Carl D. Perkins sex equity set-aside may be adaptable to other educational cultures with underserved populations. In this regard, the sex equity program has enabled our community college system to practice in concentrated form the individual care necessary to reach underserved populations.

A long-range planning committee completed a formal statement of the program's long-term mission and goals. It turns its attention now more specifically to the program's long-term products, and the continued excellence of its products as well as its relationship with official policy making bodies.

3. Cooperative efforts with the private sector.

Cooperative education programs, which enable a student to work and earn while learning a skill, are often a component of the non-traditional programs. In addition, a number of occupational programs have been specifically designed to take advantage of the presence of high technology industries in the community. For example, one college had its non-traditional electronics class design a control board for one of the local companies. This program is again exemplary with its internship that requires students to spend one day a week during the summer quarter working with a local industry. The results have been instructive, because 83 percent of the students completed the program; 60 percent of these went to work immediately after graduation in the major field; the other 40 percent stayed an extra year to take an adjunct program in computer science. The success of the college's efforts has inspired the state office to showcase this internship program to other sex equity programs as a relatively easy way to ensure students' completion and employment in the field of their major.

I. F. Criminal Offenders in Correctional Institutions

1. Numbers served through programs in correctional institutions. (See Table 1)

2. Names and addresses of institutions participating:
The following North Carolina community colleges and corresponding North Carolina Department of Corrections institutions cooperated to provide vocational education programs, services and activities funded with Carl D. Perkins Vocational Education Act 1 percent funds.

Anson Community College P O Box 68 Ansonville NC 28007	Anson Correctional Center Rt. 1, Box 160-C Polkton NC 28135
Central Carolina Community College 1105 Kelly Drive Sanford NC 27330	Harnett Youth Center P O Box 1569 Lillington NC 27546
Davidson County Community College P O Box 1287 Lexington NC 27292	Davidson Correctional Center 1400 Thomason Street Lexington NC 27292
Edgecombe Community College 2009 W. Wilson Street Tarboro NC 27886	Fountain Correctional Center 827 Fountain Road Rocky Mount NC 27801
Martin Community College Kehukee Park Road Williamston NC 27892	Martin Correctional Center P O Box 626 Williamston NC 27892
Mayland Community College P O Box 547 Spruce Pine NC 28777	Avery Correctional Center P O Box 428 Newland NC 28657
Randolph Community College P O Box 1009 Asheboro NC 27204-1009	Randolph Correctional Center 2620 Fayetteville Street Asheboro NC 27203
Surry Community College Box 304 Dobson NC 27017	Yadkin Correctional Center Rt. 2 Box 523-B Yadkinville NC 27055
Western Piedmont Community College 1001 Burkemont Avenue Morganton NC 28655	Western Correctional Center P O Drawer 1439 Morganton NC 28655

Western Piedmont Community College
1001 Burkemont Avenue
Morganton NC 28655

Burke Youth Center
Rt. 4 Box 172
Morganton NC 28655

Wilkes Community College
P O Box 120
Wilkesboro NC 28697

Wilkes Correctional Center
404 Statesville Road
Wilkesboro NC 28659

3. Types of programs provided and achievements

The $227,849 in Carl D. Perkins money was awarded through a competitive grants process to ten community colleges. This funding enabled them to enhance an already existing, comprehensive program of corrections education coordinated with the North Carolina Department of Corrections. The funds made it possible for 2,273 additional inmates to enroll in one of the following programs:

1. Basic/Remedial Education
2. Vocational Assessment/Employability Analysis
3. Job Development Services
4. Drafting (Architectural) and Design Technology
5. Carpentry
6. Horticulture
7. Masonry
8. Small Engine Repair
9. Welding
10. Food Service Management
11. Business Administration
12. Air Conditioning and Refrigeration
13. Electrical
14. Microcomputer Operations
15. Facility Maintenance

Individual tutoring and counseling, in addition to individualized instruction, helped achieve the goals of the program. Degrees, diplomas, and certificates were awarded to inmates who completed the programs.

4. Additional funds expended for criminal offenders from the Carl D. Perkins Act, such as Title II-A, disadvantaged, or Title II-B.

No additional Carl D. Perkins Act funds were expended for criminal offenders in vocational education.

Results and Accomplishments of Expending
Title II - Part B Federal Funds
Vocational Educational Program Improvement, Innovation, and Expansion

II. Program Improvement Accomplishments

A significant program improvement accomplishment for postsecondary vocational education is the Curriculum Improvement Project.

The goal of the Curriculum Improvement Project (CIP) is to provide inservice training and curriculum development to update a curriculum or curriculum area. The curricula chosen are those that are being impacted by technological, sociological or economic changes. Through a request for proposal process, a college with a quality curriculum program is funded to be a resource college and to provide leadership in organizing the other colleges to address the identified problems in the targeted curriculum area. The strategy for addressing the problems is to use staff development activities to update the instructors' knowledge, particularly in the area of technology, and to update the content of the curriculum and continuing education courses.

Four colleges received funds to implement curriculum improvement projects during 1987-88.

Central Piedmont Community College -- Automotive Mechanics
Fayetteville Technical Community College -- Air Conditioning, Heating and Refrigeration
Randolph Technical Community College -- Commercial Art/Graphics
Forsyth Technical Community College -- Diesel Mechanics

These four colleges used a variety of activities to address the particular problems identified for their curriculum areas.

- Training of instructors, hands-on and theoretical, in the technology of their subject area and in instructional techniques related to their area
- Development of instructional materials such as courses, and competency listings
- Field testing of instructional material
- Review and revision of curricula
- Obtaining industry input on instructional outcomes
- Distribution and purchase of instructional material
- Review of curriculum and continuing education offerings
- Consultation with individual colleges
- Development of a software lending library
- Review of textbooks, software, equipment and other instructional aids

A review of the Curriculum Improvement Projects indicated that they had a successful year. Of the colleges invited to participate in the major workshops and conferences, average participation levels for the four projects were 68 percent, 84 percent, 91 percent, and 94 percent. It should be noted that many colleges sent more than one instructor to the workshops.

An early evaluation of the curriculum improvement projects indicated that participating instructors felt that the projects benefited them most by:

- increasing their knowledge of technological advances,
- providing information on how to incorporate technological advances into their instructional program, and
- giving them a chance to meet and talk to other instructors in the same subject area.

These instructors indicated that the effect of the projects on them as instructors was to cause a change in

- curriculum course content,
- instructional material/resources, and
- classroom/lab teaching methods.

In May, 1988, the State Board of Community Colleges approved the following curriculum improvement projects:

TWO-YEAR PROJECTS -- SECOND YEAR FUNDING 1988-89

Fayetteville Technical Community College - Air Conditioning Heating and Refrigeration
Forsyth Technical Community College - Diesel

NEW TWO-YEAR PROJECTS -- FIRST YEAR FUNDING 1988-90

Carteret Technical College - Radiologic Technology
Sandhills Community College - Horticulture

Automotive Mechanics CIP
Central Piedmont Community College

This project was originally funded in 1985 for a two year period. Continuation funding was granted at a 50 percent level for a third year (1987-88) to expand upon the activities of the first two years. The target audience was 58 colleges who offer one or more of three automotive mechanic curricula, one vocational and two technical. During the past year the following activities were conducted.

1. Two workshops were conducted: one offered at four regional sites and one state-wide.

2. Staff conducted consultation with specific colleges.

3. An instructor needs assessment was updated for staff development planning.

4. Meetings were held with industry representatives to continue developing an exchange of information on training needs and programs.

Air Conditioning, Heating, and Refrigeration CIP
Fayetteville Technical Community College

This project completed the first year of a two year project. The target audience is 33 colleges which offer one or more of the two curriculum titles, one vocational and one technical. During the past year the following activities were conducted :

1. On site visits to ten colleges.

2. Survey of target faculty to assess needs.

3. Development of occupational competency profile.

4. Newsletter published.

5. Two faculty workshops conducted: one workshop consisted of 28 hours of hands-on training.

6. Software library established.

The staff development activities conducted during the first year of this project have already caused instructors throughout the state to begin to examine their own programs by comparing what they are now teaching with what they have learned about industry trends and current-day technology. The profile for Air Conditioning and Heating Service Technician has already been used by one college as a basis for planning a new curriculum program.

Diesel CIP
Forsyth Technical Community College

This project completed the first year of a two year project. The target audience is 18 colleges that offer one or more of three curriculum titles in the diesel area, two vocational and one technical. During the past year the following activities were conducted:

1. Competency listing for diesel curricula reviewed by industry.

2. On site visit by the coordinator to 17 of the 18 curriculum programs to assess curriculum and instructor training needs.

3. Training materials acquired from 34 representatives of industry.

4. Two workshops conducted: one state-wide and one offered at two regional sites.

5. Continuing education course material developed.

Commercial Art/Graphics CIP
Randolph Community College

The project was originally funded in 1985 for a two year period. Continuation funding was granted at a 50 percent level for a third year (1987-88) to expand upon the activities of the first two years. The target audience was 14 colleges, which offer one of two curricula in this area, both technical. An additional four colleges participated in the project at their request. During the past year the following activities were conducted.

1. Continuation of field testing and revision of instructional material developed during the project.

2. Analysis of changes in industry needs based on a resurvey.

3. Consultation with individual colleges to address specific equipment and instructional problems.

4. Software library updated.

5. Two workshops conducted: one hands-on training and one on curriculum revision.

At the beginning of the project two of the 14 curriculum programs had begun integration of computer graphics in their instruction; at the completion of the project, 12 of the 14 curriculum programs have begun this change using equipment recommendations, hands-on knowledge and instructional materials that are the results of this project.

The most significant program improvement accomplishment for postsecondary vocational education is the student follow-up. The North Carolina System of Community Colleges surveys approximately 20 percent of the recipients each year so that 100 percent of the recipients will be surveyed in a five year period. Following is a summary report of each of the three years that have been completed to date.

Follow-Up Study of 1984-85 Students
North Carolina Community College System

This report summarizes data collected through mail and telephone surveys of students who attended vocational or technical curriculum programs at 12 North Carolina community colleges during the 1984-85 academic year, but who did not register for courses at these colleges in the fall of 1985. The population

included 10,324 students, 28.2 percent of whom had complete their curriculum programs at the time of the survey, and 71.8 percent of whom had not.

Two mailings of the survey (April - June, 1986) produced a 33 percent response rate; additional follow-up by telephone (July - September) raised the overall response rate to 35 percent. Another 11 percent of the surveys were returned by the postal service for lack of forwarding addresses. Response rates for the individual colleges varied from 27 percent to 46 percent.

Nearly two-thirds (64.2%) of the respondents as well as of the survey population had been day students. However, the respondent pool included a larger proportion of females (58.6% of the respondents compared to 50.2% of the survey population), whites (82.3% vs. 78.7%), program completers (33.6% vs. 28.2%), students aged 25 to 39 (43.9% vs. 41.4%), and students aged 40 and over (14.9% vs. 10.7%). Students had been enrolled in 118 different programs -- 75 technical and 43 vocational.

The results of the survey indicate a high level of student satisfaction with courses and services offered by the 12 colleges. Respondents working in training-related jobs also gave high marks to the training they had received on campus. Over 95 percent of the respondents said they would recommend their curriculum program to a friend and 98 percent said they would recommend the college. While 66.4 percent of the respondents had not yet completed their programs, 74.9 percent of these students said they planned to take more courses at a North Carolina community college in the future. In addition, 66.1 percent of the program completers predicted they would return in the future.

Respondents were the most pleased with the quality of instruction, course content, equipment and facilities, textbooks and materials, and support services offered by their curriculum programs. They were less satisfied with the scheduling of classes, variety of classes, instructor interest and availability, and mix of hands-on experience with classroom work. Those students reporting they had used various support services offered by the colleges were least satisfied with job search assistance; 7.9 percent were not satisfied and another 14.3 percent said they were unaware job search assistance was available.

The majority (88.5%) of program completers were working, primarily in training-related jobs. However, 28.9 percent of the completers working out-of-field said they could not find work in their specialization and another 15.0 percent said they did not feel qualified for work in their field. In 12 of the 19 largest programs (evaluated by 100 or more respondents), a third or more of the employed completers were working out-of-field. Among these completers working out of field, completers of Accounting, Business Administration, Mechanical Drafting and Design, Industrial Engineering Technology, and Industrial Management Technology said they were working out-of-field primarily because they could not find jobs in their field; completers of Business Computer Programming and Criminal

Justice-Protective Services said they did not feel qualified for work in their field; completers of Auto Body Repair and Auto Mechanics said they were working out-of-field because they had taken the courses for personal interest, not employment; completers of Cosmotology said they had found better paying jobs in other fields; and completers of Electronics Installation and Welding said the lack of jobs and personal qualifications had kept them from working in-field.

Only two programs received overall ratings of "less than adequate." Each of these -- Tool and Die and Industrial Electronics -- was offered on only one of the 12 campuses surveyed.

Follow-Up Study of 1985-86 Students
North Carolina Community College System

The findings of this report deal with the circumstances of a group of 8,216 students who had been in the North Carolina Community College System one year and were not in the system the following year.

We learned that more than half of this group (52.5%) either had graduated or had achieved from this experience some other educational objective. Perhaps as few as 9.7 percent could fairly be labeled as dropouts this soon after their departure from the system. The remaining 37.8 percent includes an unknown number who already have returned to the system and a majority who should be considered to be" on hold".

Taken as a whole group, the large majority of these former students are hopeful that circumstances will permit their return to the North Carolina Community College System. This majority includes 75.0 percent of the leavers as well as 69.4 percent of the documented graduates. Their expressed interest in returning gains credence from our finding that between 18 percent and 50 percent of the leavers had returned to three colleges we spot-checked between the time they left and the time they received our survey, a period of less than a year.
Less than 5 percent of all the respondents to the survey left college because of dissatisfaction with the program or the college.

These are positive findings. Nevertheless, overall learnings suggest that the community colleges may be able to do themselves and their students a favor by acting on suggestions respondents made regarding operations and services of the colleges. These suggestions come from student interviews and comments by faculty and staff, as well as the survey responses, and go to the needs of those who have been less successful than they would have liked to be in their experience in the system.

The greatest number of leavers are experiencing difficulties juggling college, work, and home schedules. Nearly 85 percent of the leavers were working at the time of the survey and about 60 percent of these had started their jobs either before or while they were in college. In order to stay in

college, the leavers said, they needed two categories of aid: (1) expanded course offerings and more flexible scheduling (more night courses, more weekend courses, courses offered closer to home or work) -- said 36.1 percent of the leavers; (2) help with finances -- job search assistance, financial aid, and child care -- said 28.6 percent. A smaller cross-section of leavers (13.1%) appear to be less sure of their academic and vocational goals or less capable of handling the academic work. Members of this group said they most needed tutoring, counseling, and special help from instructors outside of class.

These findings make up the basis of most of the recommendations that follow in this chapter. Behind these numbers, however, is a wealth of detail that implies that the opportunity for the North Carolina Community College System may be even greater than these summary data suggest.

Although only 1.4 percent of our respondent group said that their "primary" goal was enrollment to earn transfer credits, fully 8.8 percent did complain about difficulties related to transfer credits, a finding that strongly implies that some higher percentage were interested in them, perhaps because their horizons were raised during their enrollment.

The picture that emerges is one of a vocational and technical student body perhaps better educated prior to experience in the community college system, and certainly more mobile educationally than might be generally imagined. Indeed, the emerging picture is of students interested in making a multitude of "connections" both educational and professional, and willing to go to this college or that one, now and later, to achieve ultimate goals. In short, students rather like those imagined by labor economists and educators who have said that the higher skills requirements of tomorrow's job market will require the present and succeeding generations of Americans to consider education as a lifelong process. And many students see it as a process which will send them periodically first to one educational supermarket, then to another.

All this seems to us to suggest an inevitable blurring, even erasure, of prescriptive lines between academic and technical education. The holder of a master's degree in art education from a four-year, postgraduate college appears in the local community college to learn how to be a commercial illustrator. The community college "junkie" has his sights ultimately set on a degree in manufacturing engineering at another community college up the road. The student in a community college electronics program has begun to see herself, for the first time, as four-year university material. That students like these are encountering frustration now may be a measurement of where the system has to go to serve students preparing for an economy in transition and a job market which every year becomes more complex and more challenging.

If the job market is increasingly calling for lifelong learning and the students enrolling at the community college level are beginning to adapt their educational goal-setting to this reality, the implications for the

system stand out boldly. Community colleges should work increasingly closely both with high schools and institutions of higher education to smooth the passage for students from one phase of their education to the next. Community colleges should increasingly provide the broadest possible offering of courses -- professional as well as vocational/technical -- to as many students as possible without costly duplication of education best left to the responsibility of the university. And community colleges should be a repository of good advice to students who may be at midpoint in their educational cycle or at a crucial turning point, as much in need of quality counseling as of instruction.

Student Follow Up Report 1986-87
North Carolina System of Community Colleges

This report summarizes data collected through telephone surveys of students who attended vocational or technical curriculum programs at twelve North Carolina community colleges during the 1986-87 academic year, but who did not register for courses at these colleges in the fall of 1987.

The population included 9,510 students, 24.4 percent of these students had completed their curriculum programs at the time of the survey and 75.6 percent had not completed their program of study.

Telephone interviews were conducted between December, 1987, and May, 1988. The total completed interview response rate was 42.5 percent. Response rates for the individual colleges varied from 39.8 percent to 46.2 percent. Other categories of the final sample disposition included: wrong or out-of-service numbers with no other listings available from telephone directory assistance (26.4%); continual busy signal or answering machine, and repeatedly unavailable or no answer when called back (23.0%); moved and could not be located, including serving military duty (5.8%); refusal to participate in an interview or termination of a partially completed interview (2.0%); deceased (.4%); and currently institutionalized (.1%).

Women made up 60.3 percent of the survey population and 60.8 percent of the respondent pool; minorities were 32.4 percent of the survey population and 28.9 percent of the respondent pool. There were very small differences between the proportions of the respondents who were day students (75.3% of survey respondents compared to 75.7% of survey population) and students under 25 years of age (38.9% of respondents compared to 39.1% of survey population) or 25 years and over (61.1% of respondents compared to 60.9% of survey population). There were also small differences between respondents and the survey population for graduates (25.9% of respondents compared to 24.4% of the survey population) and early leavers (74.1% of respondents compared to 75.6% of the survey population). In all, the students had been enrolled in 129 different programs -- 83 technical and 46 vocational. One of these programs which is only offered at one of the twelve study campuses had no respondents. The Chemical Technology Program at Fayetteville Technical

Community College was represented by one student in the sample who could not be located and interviewed by telephone.

The survey results indicate a high level of student satisfaction with most programs and courses offered by the twelve colleges. The percentage of students who rated various services as "excellent" are listed below by area:

quality of instruction (58.0%);
course content (51.1%);
equipment and facilities (50.3%);
variety of classes (51.2%);
instructors interest and availability (62.2%);
textbooks and materials (50.9%); and
mix of hands-on experience and classroom work (52.5%).

The students gave largely adequate ratings when excellent was not given: support courses (58.5%); and scheduling of classes (51.5%). Although an unsatisfactory rating was seldom given by students, the following received the most: scheduling of classes (6.2%); instructor interest and availability (4.0%); and variety of classes (3.6%). Respondents working in training-related jobs gave high marks to the training they had received on campus with over 90 percent describing the training as "very good" or "good" preparation for their jobs (61.6% and 28.7%, respectively).

Over 96 percent of the respondents said they would recommend their curriculum program to a friend (90.8% would recommend, and 5.7% would recommend, but would point out some shortcomings). Over 97 percent of the respondents said they would recommend the college (94.4% would recommend and 3.4% would recommend, but would point out some shortcomings). While 74.1 percent of the respondents had not yet completed their programs, the majority of these students said they planned to take more courses at a North Carolina community college in the future (44.3%, probably within a year, and 31.9% were not sure when). In addition, a majority of the program completers predicted they would return in the future (26.6%, probably within a year, and 31.5%, not sure when).

Those students reporting they had used various support services offered by the colleges were least satisfied with job search assistance. Job search assistance was used by less than a fifth of the respondents with 14.9 percent of these users expressing dissatisfaction with the service. Further, 8.9 percent of all respondents said they were unaware that the service was available.

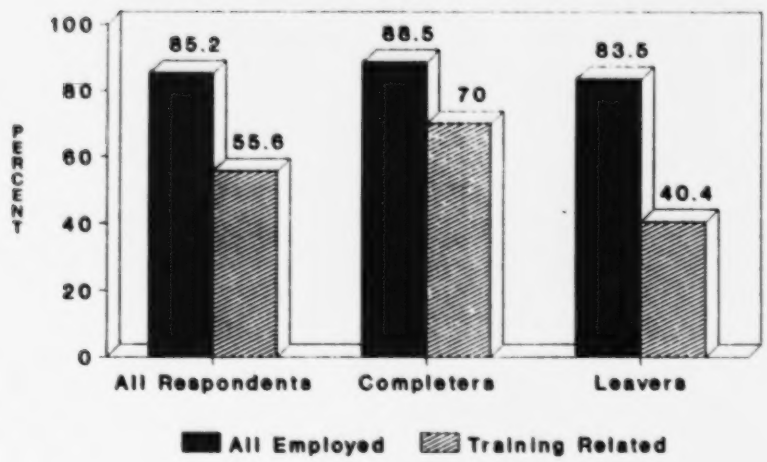
The majority of program completers (68.2%) were working, primarily in training-related jobs. Of the completers working in other fields, about a third said they were working in other jobs because they did not feel prepared for jobs in the field of their training (32.6%); 21.7 percent preferred working in another field of employment; 21.3 percent found a better paying job in another field; 20.2 percent could not find a job in their field of

preparation; and 4.1 percent were taking general interest courses, not courses to prepare for a job.

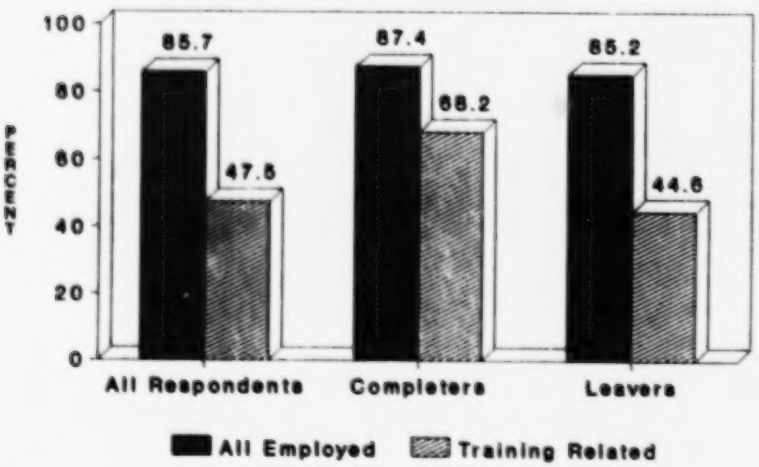
Among the eight largest programs (evaluated by 100 or more respondents), a third or less of the completers were working out-of-field. These programs and the percent working in a job not related to training were: Business Computer Programming (33.3%), Business Administration (25.3%), General Office Technology (21.9%), Cosmetology (19.8%), Accounting (7.5%), Associate Degree Nursing (R.N.) (7.5%), Electronics Engineering Technology (5.7%), and Secretarial-Executive (5.0%).

NC DEPARTMENT OF COMMUNITY COLLEGES

1984-85 & 1985-86 Survey Respondents
Employed in Training Related Jobs



1986-87 Survey Respondents
Employed in Training Related Jobs



Source: NC Dept. of Community Colleges